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ABSTRACT

The causes of rural/urban educational inequalities are multiple and diverse, and their analysis requires multi-disciplinary, longitudinal research. In this Polish study, preliminary examination of macrostatistical data on rural/urban disparities revealed the limitations of dichotomous analysis. In a broad, in-depth approach designed to develop a realistic continuum of community types, researchers lived and worked in two field research stations for 2- to 3-year periods, and a network of 49 teachers and correspondents provided data from their village schools. In total, data about 7,000 students were investigated over a 12-year period. The results demonstrate the interrelationships among educational inequalities and social inequalities. They also demonstrate the need to analyze inequalities on national, regional, and local levels. The study includes 38 statistical tables, 7 diagrams and graphs, 9 maps, an appendix outlining the principles of point setting in formulating starting and achievement level indices, and a selected bibliography containing 19 Polish, 4 French, and 8 English items. (SV)

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Analysing urban-rural disparities in education in Poland

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Analysing urban-rural disparities in education
in Poland: methodological lessons

This study is part of the IIEP research project on 'Regional disparities in educational development', directed by Gabriel Carron and Ta Ngoc Châu

Analysing urban-rural disparities in education in Poland: methodological lessons

Mikolaj Kozakiewicz

Paris 1987

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Preface

The present study is a late offshoot of a major research project on the problem of regional disparities which was carried out by the IIEP at the end of the seventies.

This project clearly showed that, in many cases, educational disparities between regions can, to a large extent, be explained by urban-rural differences. The importance of the urban-rural dimension in the understanding of educational disparities is undoubtedly related to more general imbalances in levels of development and living conditions between urban centres and rural peripheries. However, it has also to do with the way the school system functions. As is pointed out in the final report on the regional disparities project,[1]

> "The very way in which (school) supply is organized is bound to favour the towns at the expense of the rural communities. The higher we go up the academic ladder, the more teachers become specialized, the more curricula diversify and enrolment rates tend to fall. The first two characteristics affect the size of establishments if costs are to be kept at a reasonable level. The third increases the overall size of the population needed to justify the founding of a school. This organizational constraint is in itself sufficient to place towns in a privileged position vis-a-vis the countryside from the point of view of availability and accessibility of educational services. To this should be added the fact, that because of the general underdevelopment of rural areas, the human and material resources of schools in these areas are often very limited if not inadequate".

[1] Gabriel Carron and Ta Ngoc Chau, *Reduction of regional disparities: the rôle of educational planning*, Paris, Unesco Press/IIEP, 1981

What is striking, however, is that although the importance of urban-rural disparities is generally recognized, we still lack detailed analyses of these disparities in most countries. Usually, the statistical analyses which are available are of a dichotomous nature and are therefore rather superficial. Since only two categories are used, each category is bound to include very different types of situations, which makes the interpretation of results difficult. The urban heading refers in fact both to intermediate-sized townships as well as to large capitals while the rural heading covers a variety of communities ranging from rural centres to remote hamlets..

One of the important methodological questions in research on urban-rural disparities is therefore how to move from a global dichotomous analysis to a more refined study, using a continuum of different types of settlements on the basis of appropriate criteria.

The present report offers a concrete example of how a research team, from the Institute for Rural and Agricultural Development of the Polish Academy of Sciences, has tried to confront this and other related methodological questions inherent to the study of spatial disparities.

However, the value of this volume is not exclusively metholodogical. It also contains extremely rich and detailed information about the specific problems facing a given country in trying to provide relevant education to people living in different types of settlements and to reduce the disparities between those settlements.

It is therefore our hope that this publication will be of interest to researchers as well as to planners and policy-makers and that it will contribute to the development of research as well as decision-making in relation to urban-rural disparities.

Sylvain Lourié
Director, IIEP

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Introduction

During the twelve years from 1968 to 1980 the author of this study directed a team of about a dozen researchers, under the auspices of the Institute for Rural and Agricultural Development of the Polish Academy of Sciences. One of the main topics of their research was an analysis of urban-rural disparities in education in Poland; this study, bearing the same title, attempts to present their experience to a wider audience.

A. The aims of the study

In addressing this study to researchers in various countries, the main emphasis will be on the methodological aspects of the research. Investigation of the persistent inequalities in education as between rural and urban areas involves two principal operations:

(a) diagnosis of the extent of the existing inequalities, the reasons for them, and their results;

(b) evaluation of the effectiveness of the various measures introduced into the school system—reforms, innovations, etc.—with the aim of reducing the existing educational inequalities.

As understood by the research team, the diagnostic investigations should supply the necessary guidance to the authorities for taking appropriate innovative action to accelerate the equalization of educational opportunity between towns and villages. The evaluative investigations should supply information on the real value of the innovations undertaken and the extent of their influence on the existing inequalities.

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B. Why educational inequalities are important

The problem of educational inequalities has different aspects—ideological, economic, socio-pedagogical, political—and it is this fact which underlines the importance of research in this field.

1. The ideological aspect

The majority of countries profess the democratic principle of the real equality of the rights of their citizens—and this, whether they take their stand on socialist assumptions of 'social justice' or on the principles of liberal democracy. Research in this field reveals the progress (or lack of progress) in making educational opportunities more egalitarian and, in consequence, other opportunities as well, since so many of them result from education. In this way the real and practical implementation of the egalitarian promise contained in the country's ideology can be measured.

2. The economic aspect

Here, research permits the forecasting—or at least, to some extent, the control—both quantitatively and qualitatively—of the supply of manpower for the national economy; the measurement of regional development disproportions; and (at least partially) the control of the flow of manpower from the countryside to the towns, and from agriculture to the non-agricultural sectors of the economy.

3. The social and pedagogical aspect

Research identifies the social groups subjected to educational deprivation (often as a result of malfunctioning of the schools themselves) and facilitates the proper programming of innovations and reforms to be introduced into the school system—as well as actions to be undertaken in order to remedy external causes of the educational handicap of the countryside.

4. The political aspect

In revealing the range and scope of educational frustration in society, and of the unsatisfied needs and aspirations of whole social groups, research facilitates the use of educational means for discharging these feelings by removing their causes; and this in turn facilitates the implementation of other social and economic tasks in the general development of the country.

It must be stressed, however, that while we consider these reasons for investigating and trying to reduce educational inequalities are important in themselves, they are not the most important. The value and efficiency of the educational instrument for reducing the basic inequalities between

urban and rural areas must not be exaggerated; the fact remains that the educational instrument is valuable and efficient only when used in conjunction with a complex of other basic economic, social and political instruments—for example, a correct economic and social policy in relation to the countryside, a sufficient level of investment in agriculture, adequate supplies of production and consumer goods, and an improved infrastructure (communications, commerce, services, housing, etc.).

C. The different meanings of 'inequality' in education.

To avoid terminological misunderstanding, we should at the outset define the basic concepts we shall employ. In particular, such concepts as inequality, village or rural area, and rural youth must be clearly defined. It is obvious that the interpretation of these terms influences the object of the research, and may even call for a different methodology. We will discuss the notions of village and rural youth in later sections of this study: for the moment, we will concentrate our attention on various aspects of equality and inequality in education.

Equalitarianization is the process of equalizing the living conditions of people in the name of certain moral principles—in particular, the principle of justice. In relation to the equalizing of instructional opportunity or educational opportunity the term is used in Poland with several different meanings. We have discussed this question more fully elsewhere,[2] and will restrict our treatment here to a brief enumeration of the various meanings of the term.

1. Educational inequality conceived as inequality of the share which members of various social groups (e.g., inhabitants of the countryside) have in the various levels of education as compared with their share in the national population. In 1978, for example, 31 per cent of the Polish population were employed in agriculture and forestry, whereas the proportion of children of agricultural workers enrolled in the first year of education in the same year was only 8.4 per cent.

2. Educational inequality conceived as inequality in the utilization of intellectual potentialities - that is, the situation in which children of equal capability and intelligence are without equal access to schools of different levels because of various obstacles. Equality of opportunity of this type is not, however, expected to extend to all children irrespective of their level of capability, knowledge and intelligence.

[2] M. Kozakiewicz, 'Theoretical and Practical implications of the Different Meanings of Unequal Access to Education' in 'Rural Social Change in Poland', Warsaw-Wroclaw, 1976, pp. 293-305.

3. Inequality of opportunity for the fulfillment of wishes and aspirations in life (including educational aspirations) is assumed to exist when a person's desire for something, or his wish to achieve something in life, is frustrated—and this, regardless of whether his demands from life are 'justified' or 'right'.

4. Inequality of the 'start' in life, conceived as economic, social and cultural inequality of the conditions under which an individual is born, grows and develops. This inequality hampers his intellectual development, reduces his opportunities to develop to the full his capabilities, interests and talents, and also hinders his access to successively higher levels of education.

Even a brief consideration of the differences in these various definitions of inequality in 'access to education' or in 'educational (life) opportunities' shows that they differ by a specific 'philosophy', tacitly accepted in each case before the definition is formulated. A tentative classification of these philosophies, according to the various notions of egalitarianism underlying them, might be as follows:

(a) equality = proportionality of share is based on the concept of statistical or mechanistic egalitarianism;

(b) equality = equal opportunity for the equally gifted (or the greatest opportunities for the most gifted) emerges from the notion of relativist, selective egalitarianism (which, some suspect, is no sort of egalitarianism at all in the literal sense of the word);

(c) equality = equal opportunity to fulfil any wishes and aspirations in life, irrespective of subjective and objective conditions, deserves the name of 'absolute or utopian egalitarianism';

(d) equality = equality of start in life is based on the concept of 'structural egalitarianism'.

D. The implications for research of the different meanings of 'inequality'

On the basis of our experience we can identify the following implications for research of the different meanings of 'inequality':

1. They require different forms of investigation: different populations, different hypotheses, different methods, and sometimes a different main object of investigation. This will be illustrated in the second part of this study, dealing with the methods of investigation of educational inequalities.

2. They throw light on different areas of social reality: the conclusions drawn about the level of inequality between towns and countryside in

a given society may differ according to the concept adopted, or may be completely opposed to those drawn on the basis of another concept. For example, one can imagine a society in which all the most gifted children will attend institutions of higher education, as a result of strong special interventions and efforts on their behalf (100 per cent fulfillment of selective, relativist egalitarianism), while at the same time the majority of less-gifted and average pupils will be subjected to severe real selection and discrimination (absence of egalitarianism in all its other meanings).

3. They require different types of efforts and reforms in the range of educational and, in the wider field, of social policy. A situation may therefore arise in which an improvement in one form of equalizing educational opportunities (e.g., 'only for the best' or 'only for the workers' children') impairs the educational opportunities implicit in the other meanings of 'equality', since spending a lot of money in seeking out and favouring talented and eminently capable children will leave no money for improving the conditions of learning for the majority of average pupils. To take another example, if a *numerus clausus* (restricted admission for certain groups) policy is in operation at university level, the artificial increase in the number of workers' children automatically restricts the selection for the children of intelligentsia or peasants.

To conclude these remarks on the equalization of educational opportunity based on the different meanings assigned to the notions of 'equality' and 'inequality' it should be mentioned that what is generally involved is a process, not a state attained once and for all. The methodology of the investigation, therefore, has to be a methodology of investigating dynamic, not static, phenomena. Our experience in Poland showed that this process is not one of a uniform motion on a steadily rising line; on the contrary, it has its breakdowns and obstructions, and even regressions; and in consequence, drawing conclusions or making forecasts by a mechanical extrapolation of trends can be particularly deceptive in this domain.

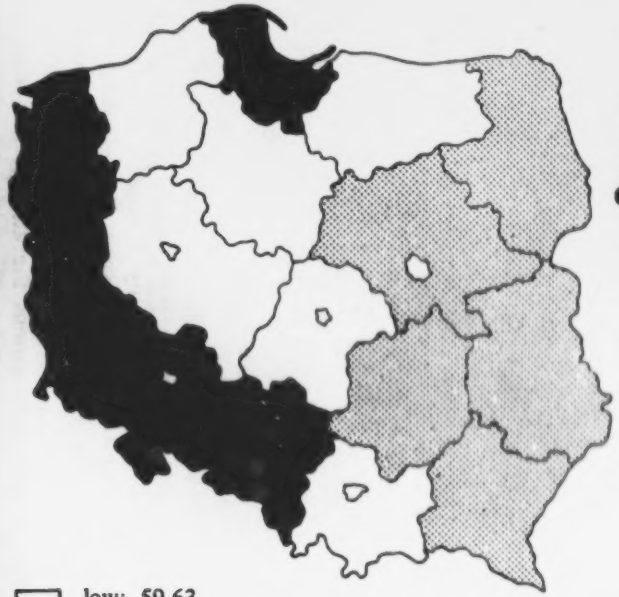
Furthermore, the process of equalizing inequalities goes on differently not only at different periods of time, but also differently at the same time in different regions of the country. It is therefore necessary to apply a spatial analysis (see Map 1).

Finally, the educational inequalities between urban and rural areas are never an autonomous, independent phenomenon, but are rather a particular field for the effects of more general inequalities of another kind to appear—social, economic and cultural. This fact is most clearly taken into account by definition (d) above: equality = equality of start in life. This is why any really effective action in favour of educational equality must include the minimization of inequalities in all the other domains in the life of village-dwellers.

In further related investigations the attempt was made to take into account, as far as possible, all these circumstances and complexities (and ambiguities) surrounding the notion of educational inequalities between towns and villages.

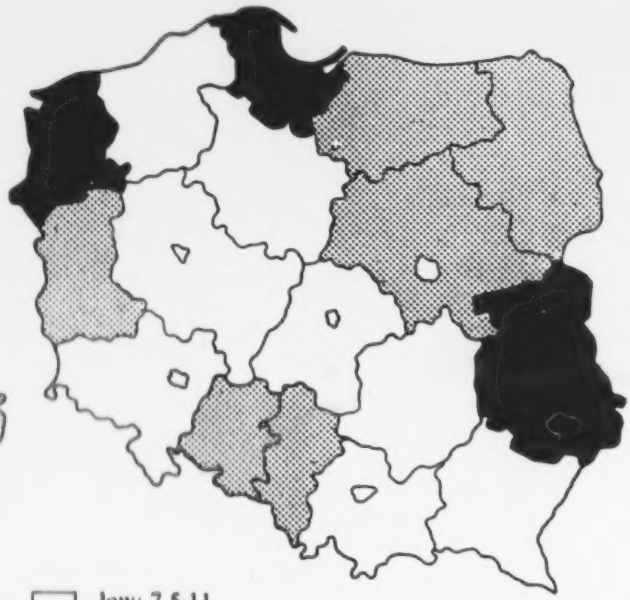
Map 1. The regional differences in school attendance rate, 1970

a age 15-19



low: 59-63
medium: 63-65
high: 65

b age 20-24



low: 7.5-11
medium: 11-14
high: 14-18

1. Dichotomous analysis of urban-rural inequalities and its limitations

The most common method of analysing urban/rural disparities, encountered particularly often in various official statistics, is the dichotomous one: the division of the data into two mutually exclusive groups ('town' and 'village', or 'urban' and 'rural'). Sometimes the method is used also in the analysis of empirical research findings. Some examples of dichotomous analysis, both macrostatistical and empirical, are given in *Tables 1 - 5*. The advantage of this method is its simplicity; the disadvantages are its superficiality, and the inadequacy of criteria for the division of all settlements into two groups ('urban' and 'rural') which must inevitably be mutually exclusive.

(i) Examples of macrostatistical classifications of 'rural-urban' disparities

Table 1: Children aged 3-6 years in kindergartens

	Urban	Rural	Total
Number of children aged 3-6 years (in thousands)	1 207	1 056	2 263
Percentage in kindergartens	57	36	43

Table 2: Population aged 15-16 years continuing study after having completed obligatory 8-year schooling (in percentages of school-leavers 1978/79)

	Urban	Rural	Total
In two-year schools for skilled workers	43	66	53
In grammar schools (Lyceum)	25	9	18
In technical 4/5 year schools	27	23	25
Total	95	97	96

Table 3: Level of education of agricultural and non-agricultural active population (1974, in percentages)

Level of education	Agricultural	Non-agricultural
Less than compulsory school	40.0	6.0
Compulsory 8/7/years school	50.0	39.0
School for skilled workers	6.0	24.0
Lyceum, technicum	3.0	26.0
Higher education	0.5	6.0

Source: All data from Main Statistical Office

(ii) Examples of findings of empirical research

Table 4: Attitudes of urban and rural workers towards further education (1,472 workers of petrochemical plant in Plock, 1968, in percentages)

Attitudes	Urban workers	Rural workers
Studying at the time of research	16	18
Wanting to study	57	56
Not intending to study	23	31
No data	4	5

Source: Irena Nowak, The workers in an industrializing town (in Polish), Warsaw, 1983, p. 130

Table 5: Daily time-utilization of 1,160 pupils from V-VIII grades of compulsory 8-year school

Type of activity	Urban schools		Rural schools	
Schoolwork	288	(275)	318	(282)
Homework	92	(79)	88	(78)
Out-of-school learning	62	(7)	48	(6)
Travel to/from school	43	(34)	58	(47)
House cleaning, cooking etc.	46	(25)	48	(26)
Washing, laundry, ironing etc.	43	(11)	49	(19)
Shopping, miscellaneous services	44	(21)	48	(18)
Helping parents in their work	138	(1)	85	(6)

Note: The data refer only to those pupils who admitted to perform such types of activities. The figures in brackets are the average times (in minutes) for all pupils questioned.

Source: Barbara Wilgocka-Okon, The activities of pupils in relation to the optimalization of schoolwork, (in Polish), Warsaw, 1976, p. 114

With these disadvantages in mind, the researcher nevertheless has to rely on all the available macrostatistical data in order to obtain basic general information regarding the fields in which disparities occur, their relative importance, and, sometimes, their regional distribution inside the country as a whole.

A. Basic macrostatistical data on the scale of the 'rural/urban inequalities' problem in Poland

The problem of equalizing the various disparities between towns and countryside is common to all countries aiming at greater justice in the system of social relations and more equal participation by all citizens in the advantages and benefits resulting from the socio-economic progress and development of the country. But obviously the gravity of the problem of reducing educational inequalities varies both from country to country, and from region to region within a given country. Four factors are involved:

(a) The numbers and proportion of the population of the rural areas in the total population.

(b) The numbers and proportion of the population employed in agriculture in (a) the total population or (b) the total active population.

(c) The scale of the disparities existing between towns and countryside in various domains (including education), the progress so far achieved in reducing them, and the pace of their reduction or elimination.

(d) The importance assigned to the principle of egalitarianism by the authorities at any given stage of the country's development.

We will briefly summarize the situation in Poland in respect of these four factors, so that the investigations into urban/rural inequalities described in subsequent sections of this study can be considered in this fuller perspective.

1. The proportion of the rural population in the total population of Poland, 1946-1978

According to successive censuses, this proportion has decreased as follows:

	Percentage
1946	68.2
1950	61.0
1960	51.7
1970	47.7
1978	42.5

These figures show that in spite of the continuous decrease in the percentage of rural population in the total population, more than four out of ten inhabitants of Poland still live in the countryside. But a closer look at the data reveals that although between 1950 and 1970 the percentage of rural population in the total was decreasing, the absolute number of people living in the countryside was increasing—from 15.0 million in 1950 to 15.2 million in 1960 and to 15.6 million in 1970. Not until 1978 did the numbers fall below the level of 1950, and then only slightly, to 14.9 million. In Poland, in other words, in spite of the decreasing proportion of the rural population in the total population, there has been very little change (and in fact, up to 1970, an increase) in the absolute numbers of persons who, as a result of their place of residence, are actually or potentially liable to suffer from the effects of the various inequalities between towns and countryside.

These data also throw some light on the position of Poland compared with other European countries as regards urbanization: namely, in the middle-to-lower group. According to the index of rural and urban population in the 1970s, Belgium, Czechoslovakia, Denmark, Finland, France, the Federal Republic of Germany, the German Democratic Republic, the Netherlands, Sweden, the USSR and the United Kingdom were all more urbanized than Poland; only Ireland, Italy, Portugal, Romania and Yugoslavia were significantly less urbanized.

The problem of inequality between rural and urban areas in Poland is, as these figures demonstrate, one of the fundamental social problems and involves a large proportion of the total society. It is not surprising, therefore, that it is a major focus of attention, both by politicians and by students of social problems.

2. The proportion of the population employed in agriculture

The gradual decrease of the proportion of the agricultural population in the total population can be represented by two different indices (see *Table 6).*

It is clear from these figures that although the relative proportion of this category of the population continues to decrease, it nevertheless still represents a quarter to a third (depending on the index used) of the population of the country. If, bearing in mind our earlier remarks on the

Table 6: Proportions of agricultural population

Census	Persons subsisting on agricultural work as percentage of population	Persons employed in agriculture as percentage of employed population
1950	47.1	53.6
1960	38.4	43.3
1970	29.8	34.3
1978	23.1	30.7

Source Statistical Yearbook 1979, p. 79, Table XXXII.

subject it is assumed that it is precisely the agricultural population that is most often and to the greatest extent exposed to the effect of educational inequalities between the towns and the countryside, it is obvious that the problem is very serious and that it still has a wide social range. Furthermore, as in the case of the rural population as a whole, the radical decrease in the percentage of persons employed in agriculture has not been reflected in a decrease in their absolute number, which has varied only slightly (within the limits of 5.5 to 5.2 million) during the period considered. This is a consequence of the rapid growth in the number of people employed in the national economy as a whole (taking a base of 100 in 1946, 1978 = 174). In effect, therefore, during this period the number of people endangered or affected by educational inequalities as a result of belonging to the rural/agricultural category remained unchanged.

In this connection it should be emphasized that Poland has one of the highest indices of agricultural population in Europe[3] (exceeded only in Bulgaria, Greece and Yugoslavia); these problems are consequently a constant preoccupation both in the politics of the State and in scientific research.

3. The scale of the disparities (educational and other) existing between towns and countryside

There can be no doubt that the inequality between urban and rural areas is, in the majority of domains, an historical heritage that can be obliterated only in the long term. In other words, these inequalities which still remain are the residue from a long-drawn-out struggle for their reduction. In consequence, for a proper appreciation both of existing conditions and of

[3] A situation only partly explained by the different methods of estimating the proportion of the agricultural population in Poland.

Table 7. Stock of education of urban and rural population in Poland, 1970

Age group	Number of surveyed people (in thousands)			Total number of school years (in thousands)			Per capita school years		
	Total	Women	Men	Total	Women	Men	Total	Women	Men
A. Urban									
15-19	1 975.4	979.8	995.6	16 561.3	8 330.1	8 226.5	8.38	8.50	8.26
20-24	1 674.8	849.5	825.2	16 874.6	8 697.0	8 174.0	10.00	10.23	9.90
25-29	1 114.7	566.6	548.0	10 957.0	5 531.2	5 393.8	9.82	9.76	9.84
30-34	1 259.8	640.9	618.8	12.022.7	6 041.3	6 087.3	9.50	9.42	9.67
35-39	1 295.7	650.9	644.7	11 945.4	5 754.4	6 078.0	9.20	8.84	9.42
40-44	1 251.6	639.2	612.4	10 843.5	5 142.6	5 670.0	8.66	8.04	9.25
45-49	1 066.8	574.3	492.5	9 120.5	4 523.1	4 425.6	8.50	7.87	8.98
50-54	640.6	351.4	289.2	5 156.9	2 653.2	2 497.4	8.09	7.55	8.63
55-59	743.9	419.3	324.5	5 282.2	2 980.3	2 657.7	7.10	7.10	8.19
60-64	723.5	415.0	308.4	5 087.3	2 728.3	2 348.5	7.03	6.57	7.61
65 - +	1 311.8	847.4	464.3	7 880.3	4 644.9	3 230.8	6.00	5.48	6.95
B. Rural									
15-19	1 501.7	725.7	776.0	12 376.0	5 909.5	6 466.6	8.24	8.14	8.33
20-24	1 282.5	609.0	673.5	10 995.7	5 270.2	5 722.4	8.57	8.65	8.49
25-29	773.4	372.7	400.6	6 110.7	2 910.3	3 191.0	7.90	7.80	7.96
30-34	895.2	438.1	457.1	6 691.1	3 209.5	3 477.3	7.47	7.32	7.60
35-39	960.8	478.6	482.2	6 368.9	2 994.2	3 426.5	6.62	6.25	7.10
40-44	1 004.0	519.1	484.9	6 005.4	2 901.1	3 091.9	5.98	5.58	6.37
45-49	919.1	496.8	422.2	5 459.3	2 840.4	2 604.6	5.93	5.71	6.16
50-54	640.3	342.1	298.1	3 551.1	1 818.8	1 672.4	5.54	5.31	5.61
55-59	757.2	407.7	349.4	3 752.9	1 905.5	1 845.4	4.95	4.67	5.28
60-64	776.2	408.4	367.7	3 325.1	1 512.2	1 715.2	4.28	3.94	4.66
65 - +	1 423.8	826.1	5 467.3	2 538.5	2 595.1	3.83	3.07	3.07	4.34

Source: Mikolaj Kozakiewiez: Survey of the stock of education of the urban and rural populations in 1970, Warsaw, 1977

prospects for the future, there must be a continuous evaluation of the phenomena in their historical development. Some examples will illustrate this thesis.

(a) Inequalities in the educational domain

(i) The 'stock of education': Table 7 gives details of the 'stock of education' in Poland in 1970, based on the results of the census of that year. Analysis of the data in this table enables the following conclusion to be drawn: the older the population investigated, both in towns and countryside, first, the lower the level of education, by years of school attendance; secondly, the greater the inequality of this level as between towns and countryside.

In the case of the rural inhabitants, the improvements in education have led to a doubling of the average number of years of schooling per inhabitant: for example, for males in the age group 60-64 the average is 4.66 years, and for those aged 65 and over 4.34 years, as compared with an average of 8.49 years for those in the 20-24 age group. For women the increase was even greater.

Nevertheless, the overall inequality between urban and rural areas continued, though its range decreased considerably. Whereas the ratio between the mean levels of education of persons born in 1910 or earlier was 1.64 (urban): 1.00 (rural), among the youngest age-groups (born in 1946-50) this ratio levelled down to 1.16 : 1.00. It must be borne in mind, however, that though these indices of the 'stock of education' are instructive, and emphasize the need for historical evaluation of the process of reducing educational inequalities, they are in themselves unilateral, and throw only a partial light on the problem, since they give no indications of the qualitative aspects of education. There are two reasons for these qualitative disparities: the lower quality of rural schools in general, and the fact that the urban 'stock of education' includes a far higher proportion of years of education at secondary and higher level. The inequality between rural and urban areas which these statistics fail to demonstrate lies in the fact that the average town-dweller is not only educated for a longer time, but also, in many cases, receives a better, more thorough education at a higher level.

(ii) Differences in the school attendance rate between urban and rural areas: The same 1970 census data were used by our team to carry out another macrostatistical investigation, covering the whole population (the relevant figures are contained in Tables 8 and 9.[4]

[4] Mikolaj Kozakiewicz 'Zroznicowanie dostepu mlodziezy do ksztalcenia w 1970' (Differentiation in the access of youth to education in 1970) PAN (for service use) and Mikolaj Kozakiewicz 'Skolaryzacja mlodziezy polskiej' (School attendance rate of Polish youth) PAN. Warsaw, 1976, p. 112.

Table 8. Percentage of 15-24 year-old population according to parents' occupation (agriculture/non-agriculture)

	Total					Agricultural					Non-agricultural			
		Studying					Studying					Studying		
			Type					Type					Type	
Age	Working	Total	Evening	Full-time	Idle	Working	Total	Evening	Full-time	Idle	Working	Total	Evening	Full-time
	1	2	3	4	5	1	2	3	4	5	1	2	3	4
Total														
15-19	28.6	66.0	3.6	62.4	9.0	37.5	55.7	2.7	53.0	9.5	24.9	70.4	4.1	66.3
15	4.1	91.2	0.6	90.6	5.3	12.1	81.3	1.4	79.9	8.0	0.5	95.8	0.3	95.5
16	8.6	86.1	1.6	84.5	6.9	22.3	71.4	2.6	68.8	8.9	2.2	92.9	1.1	91.8
17	19.2	73.2	2.9	70.3	10.5	37.6	55.0	3.2	51.8	10.6	10.5	81.9	2.7	79.2
18	45.6	49.6	6.1	43.5	10.7	54.4	39.3	3.4	35.9	9.7	42.5	53.7	7.3	46.4
19	67.3	28.0	7.4	20.6	12.1	72.9	19.7	3.3	16.4	10.7	65.6	30.6	8.7	21.9
20-24	79.6	14.6	7.0	7.6	12.8	84.8	7.3	2.7	4.5	10.7	78.2	16.5	8.0	8.5
Male														
15-19	31.5	65.6	4.1	61.5	7.0	39.4	56.0	3.0	53.0	7.6	28.2	69.6	4.5	65.1
15	3.7	93.2	0.7	92.5	3.8	10.7	84.8	1.6	83.2	6.1	0.5	97.0	0.3	96.7
16	8.9	87.4	1.9	85.5	5.6	22.6	73.0	3.0	70.0	7.4	2.5	94.0	1.4	92.6
17	20.4	74.1	3.4	70.7	8.9	39.8	54.7	3.7	51.0	9.2	11.3	83.3	3.3	80.0
18	53.9	45.1	7.0	38.1	8.0	61.2	34.9	3.7	31.2	7.6	51.2	48.7	8.1	40.6
19	73.2	25.8	7.6	18.2	8.6	78.1	17.2	3.2	14.0	7.9	71.7	28.5	9.0	19.5
20-24	85.7	15.1	7.3	7.8	6.5	89.0	7.3	2.9	4.4	6.6	84.8	17.1	8.4	8.7
Female														
15-19	25.6	66.5	3.3	63.2	11.2	35.5	55.5	2.5	53.0	11.5	21.4	71.2	3.6	67.6
15	4.6	89.2	0.6	88.6	6.8	13.6	77.7	1.3	76.4	10.0	0.5	94.3	0.2	94.1
16	8.2	84.7	1.2	83.5	8.2	21.9	69.8	2.1	67.7	10.4	2.0	91.6	0.7	90.0
17	18.0	72.3	2.4	69.9	12.1	35.2	55.3	2.7	52.6	12.2	9.7	80.5	2.2	78.3
18	37.5	54.4	5.3	49.1	13.4	48.1	43.3	3.1	40.2	11.7	33.0	59.1	6.3	52.8
19	61.3	30.1	7.1	23.0	15.7	67.7	22.2	3.4	18.8	13.5	59.0	32.7	8.4	24.3
20-24	73.3	14.1	6.7	7.4	19.3	80.3	7.2	2.6	4.6	15.1	71.6	15.8	7.7	8.1

Explanation of columns:
1 Percentage working only
2 Percentage studying
3 Percentge studying at evening schools jointly with working
4 Percentage studying only (full-time)
5 "Idle" (neither studying nor working)

Table 9. Population aged 15-24 years: studying, working, neither studying nor working (1970)

A. URBAN:

Age		Total	Total studying	Studying & working	Studying only	Working	Idle	Percent studying	Percent studying full-time	Percent working	Percent idle
1		2	3	4	5	6	7	8	9	10	11
Male											
15		203 793	199 978	629	199 349	913	3 531	98.1	97.8	0.4	1.8
16		201 182	193 166	2 836	190 330	4 415	6 437	96.0	94.6	2.2	3.2
17		199 218	175 553	6 191	169 362	17 151	12 705	88.1	85.0	8.6	6.4
18		198 969	116 010	16 770	99 240	84 822	14 907	58.3	49.9	42.6	7.5
19		192 458	70 781	19 367	51 414	123 313	17 731	36.8	26.7	64.1	9.2
15-19	a	995 620	755 488	45 793	709 695	230 614	55 311	75.9	71.3	23.2	5.5
	b	60 119	49 782	-	49 782	7 576	2 761	-	-	-	-
	c	1 055 739	805 270	45 793	759 477	238 190	58 072	76.3	71.9	22.6	5.5
20-24	a	825 283	188 915	82 479	106 436	659 957	56 890	22.9	12.9	80.0	7.1
	b	55 138	34 819	-	34 819	19 297	1 022	-	-	-	-
	c	880 421	223 734	82 479	141 255	679 254	59 912	25.4	16.0	77.1	6.9
Female											
15		200 339	193 940	391	193 419	1 022	5 868	96.8	96.6	0.5	2.9
16		197 797	187 092	1 392	185 700	3 260	8 537	94.6	93.9	1.8	4.3
17		194 530	167 289	4 185	163 104	15 299	16 127	86.0	83.8	7.9	8.3
18		194 532	133 747	12 052	121 695	51 475	21 362	68.8	62.6	26.5	10.9
19		192 626	80 579	16 901	63 678	101 535	27 413	41.8	33.1	52.7	14.2
15-19	a	979 824	762 547	34 921	727 626	172 891	79 307	77.8	74.3	17.6	8.1
	b	50 637	44 700	-	44 700	3 951	1 986	-	-	-	-
	c	1 030 461	807 247	34 921	772 326	176 842	81 293	78.3	74.9	17.2	7.9
20-24	a	849 540	169 506	71 315	98 393	599 780	151 667	20.0	11.6	70.6	17.8
	b	44 371	29 664	-	29 664	13 768	939	-	-	-	-
	c	893 911	199 372	71 315	128 057	613 248	152 606	22.3	14.3	68.6	17.1
Total											
15		404 132	393 818	1 020	392 798	1 935	9 399	97.4	97.2	0.5	2.3
16		398 979	380 258	4 228	376 030	7 975	14 974	95.3	94.2	2.0	3.8
17		393 748	342 842	10 376	332 466	32 450	28 832	87.1	84.4	8.3	7.3
18		393 501	249 757	28 822	220 935	136 297	36 269	63.5	56.1	34.6	9.3
19		385 084	151 360	36 268	115 092	224 848	45 144	39.3	29.9	58.4	11.7
15-19	a	1 975 444	1 518 035	80 714	1 437 321	403 505	134 618	76.8	72.8	20.4	5.8
	b	110 756	94 482	-	94 482	11 527	4 747	-	-	-	-
	c	2 086 200	1 612 517	80 714	1 531 803	415 032	139 365	77.3	73.4	19.9	6.7
20-24	a	1 674 823	358 623	153 794	204 829	1 259 437	210 557	21.4	12.2	75.2	12.6
	b	99 509	64 483	-	64 483	33 088	1 961	-	-	-	-
	c	1 774 332	423 106	153 794	269 312	1 292 502	212 518	23.8	15.2	72.8	12.0

Table 9(cont.). Population aged 15-24 years: studying,working, neither studying nor working (1970)

B. RURAL

Age		Total	Total studying	Studying & working	Studying only	Working	Idle	Percent studying	Percent studying full-time	Percent working	Percent idle
1		2	3	4	5	6	7	8	9	10	11
Male											
15		164 680	143 560	2 062	141 498	12 632	10 550	87.2	85.9	7.7	6.4
16		153 890	117 201	4 051	113 150	27 029	13 711	76.1	73.5	17.6	8.9
17		153 939	86 125	5 814	80 311	55 069	18 559	55.9	52.2	35.8	12.0
18		152 225	42 291	7 727	34 564	104 320	13 341	27.8	22.7	68.5	8.8
19		151 278	17 988	6 862	11 126	128 211	11 941	11.9	7.3	84.8	7.9
15-19	a	776 012	407 165	26 516	380 649	327 261	68 102	52.6	49.0	42.2	8.8
	b	173 478	132 030	-	132 030	39 789	1 659	-	-	-	-
	c	949 490	539 195	26 516	512 679	367 050	69 761	56.8	54.0	38.7	7.3
20-24	a	673 524	36 980	26 121	10 859	624 536	38 129	5.5	1.6	92.7	5.7
	b	100 949	25 004	-	25 004	75 128	817	-	-	-	-
	c	774 473	61 984	26 121	35 863	699 664	38 946	8.0	4.6	90.3	5.1
Female											
15		151 841	119 947	1 450	118 497	15 187	17 977	79.1	78.1	10.0	11.8
16		144 638	102 903	2 553	100 350	24 851	19 437	71.1	69.4	17.2	13.4
17		145 997	78 909	3 864	75 045	45 971	24 981	54.0	51.4	31.5	17.1
18		143 198	49 976	5 989	43 987	75 100	24 111	34.9	30.8	52.4	16.8
19		140 312	19 794	6 978	12 816	102 522	24 974	14.1	9.1	73.1	17.8
15-19	a	725 786	371 529	20 834	350 695	263 611	111 480	51.2	48.3	26.3	15.4
	b	188 950	158 289	-	158 289	28 816	1 845	-	-	-	-
	c	914 736	529 818	20 834	508 984	292 427	113 325	57.9	56.6	32.0	12.4
20-24	a	609 025	36 226	26 193	10 033	469 388	129 604	5.9	1.6	77.1	21.3
	b	72 221	19 685	-	19 685	51 808	728	-	-	-	-
	c	681 246	55 911	26 193	29 718	521 196	130 332	8.2	4.4	76.5	19.1
Total											
15		316 321	263 507	3 512	259 995	27 799	28 527	83.3	82.2	8.8	9.0
16		298 528	220 104	6 604	213 500	51 880	33 148	73.7	71.5	17.4	11.1
17		299 936	165 034	9 678	155 356	101 040	43 540	55.0	51.8	33.7	14.5
18		295 423	92 267	13 716	78 551	179 420	37 452	31.2	26.6	60.7	12.7
19		291 590	37 782	13 840	23 942	230 733	36 915	13.0	8.2	79.1	12.7
15-19	a	1 501 798	778 694	47 350	731 344	590 872	179 582	51.8	48.7	39.3	12.0
	b	362 428	290 319	-	290 319	68 605	3 504	-	-	-	-
	c	1 864 226	1 069 013	47 350	1 021 663	659 477	183 086	57.3	54.8	35.4	9.8
20-24	a	1 282 549	73 206	52 314	20 892	1 093 924	167 733	5.7	1.6	85.3	13.1
	b	173 170	44 689	-	44 689	126 936	1 545	-	-	-	-
	c	1 455 719	117 895	52 314	65 581	1 220 860	169 278	8.1	4.5	83.9	11.6

Explanation of columns in above table:
1 Age in years
2 Total of investigated persons
3 Total studying (attending schools)
4 Number of those both studying and working
5 Studying only (without working)
6 Working
7 "Idle" (neither studying nor working (col. 2-3-6+7)
8 Percentage studying (col. 3:2)
9 Percentage studying ful-time
10 Percentage working (col. 6:2)
11 Percentage "idle" - neither working nor studying (col.7:2)

Note: For each age group 15-19 and 20-24 there are totals a,b and c:
(a) People living in villages during census
(b) People absent from villages during census but living there
(c) Total

The object was to discover the school attendance rates of young people aged 15-24, in single-year age-groups from 15 to 19 and in a combined group for ages 20-24. The educational situation of the members of these age-groups could be classified under four headings:

(a) learning (attending school full-time);

(b) working and learning (school part-time, employed part-time);

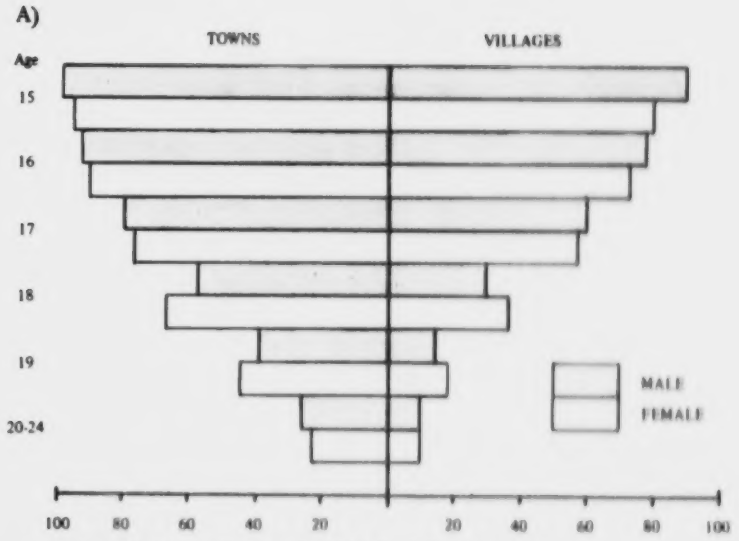
(c) working but not learning (employed);

(d) non-learning and non-working ('idle', inactive as regards both school and work).

For the purposes of interpretation of the findings these classifications were ranked as (a) optimal, (b) less advantageous, (c) still less advantageous, and (d) least advantageous. We realize that from the point of view of some philosophies of education this hierarchy of values is open to criticism: it may be considered that in fact classification (b), working and learning, is better and educationally more valuable than (a). However, for the purposes of assessing the disadvantages of the countryside as compared with the towns the descending order (a) to (d) appeared valid, and in view of the findings presented in this Section no further justification will be attempted here.

One general observation should, however, be made at this point. Whereas the measurement of the 'stock of education' demonstrated the stage achieved at a given moment (the 1970 Census), illustrating the final result of the activity of the school system, the study of the utilization of the system by the various age-groups of young people demonstrates the present inequality of their destinies and situation in life. In other words, the 'stock of education' describes the historically-covered road and enables comparisons to be made between various generations with regard to their education; the school attendance rates illustrate the present moment, and enable comparisons to be made between various groups in the same generation. The main results of this study are shown in *Figure 1*.

The overall rates (Figure 1A) demonstrate clearly that urban school attendance is considerably greater than that in rural areas; the disparity increases with age, and is greatest in the 20-24 age-group (the years of higher education). A more complicated situation is revealed, however, when the overall rates are broken down (Figure 1B). Contrary to expectations, the attendance rate for agricultural youth is only slightly inferior to that for rural youth as a whole at the age of 15 and 16 years; at 17 it is identical; and at 18 and 19 (secondary school) it is considerably better. For the 20-24 age-group, however, the situation is again reversed and the attendance rate for the total of rural youth is higher (though only slightly) than that for agricultural youth.



Source: M.Kozakiewicz, "Scolarisation of Polish Youths" Warszava, 1976

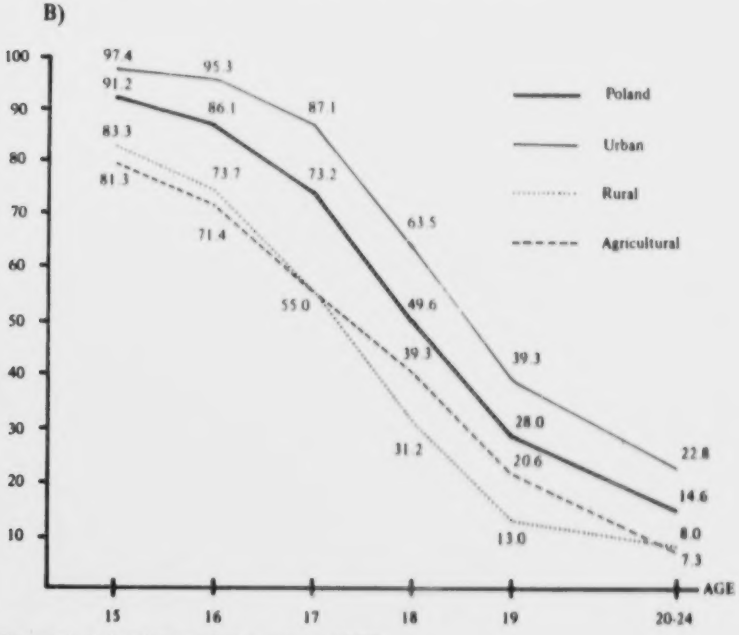


Figure 1. School attendance rate in 1970

In view of the macrostatistical nature of this investigation it is not possible to estimate how far these figures reflect the real state of affairs, nor why such a picture should emerge. The explanation may lie partly in the statistical uncertainties surrounding the definition of such criteria as urban/rural and agricultural/non-agricultural (this question is discussed at length in Chapter 5, pages 64-69). Some distortion may be due to the ever-growing numbers of inhabitants of rural areas who are not farmers but belong to other social categories (e.g., workers) which in both rural and urban areas, rank lower than, for example, the intelligentsia in respect of their educational aspirations and opportunities. A further factor of distortion may be the system of special facilities (the 'social premium' at admission examinations) for peasant youth, which was rigorously applied up to 1970. These difficulties can be resolved only by empirical research, involving a much more detailed classification of the various categories of people working in agriculture and of the inhabitants of rural areas as a whole.

The foregoing remarks demonstrate clearly the inadequacy of macrostatistical data for providing answers to many fundamental questions—answers essential for the precise definition of disparities between urban and rural areas and, in consequence, for programming remedial actions for their reduction.

(b) Inequalities other than education

Although this study is concerned mainly with educational inequalities between urban and rural areas, other inequalities revealed by macrostatistics cannot be entirely ignored, since many of them exert a direct or indirect effect on the persistence of inequalities in the educational field as well.

It is the interaction of these various effects that renders the task of reducing the existing inequalities so difficult and costly. We shall limit ourselves here to a brief discussion of certain non-educational inequalities.

(i) Disparity in income and household equipment: In general, the income per person of members of the agricultural population is less than that of the non-agricultural population. As long as the disparity does not exceed 10-15 per cent it can be justified by the lower cost of living in the countryside. However, if the disparity considerably exceeds this level, and if increases in income are appreciably lower in agriculture than in other sections of the economy, many aspects of the life of a peasant family are seriously affected. For example, between 1970 and 1975 in Poland real incomes increased in the whole of the socialized economy by 41 per cent, but in the peasant economy by only 27 per cent; by 1975, therefore, the disparity in incomes had widened considerably, to the disadvantage of the

agricultural population.[5]

Table 10: Durable household equipment, 1978 (percentages)

Equipment	Workers' households	Biprofessional households	Peasant households
Radio	75.0	75.6	71.5
TV	95.9	92.9	78.5
Record-player	29.3	22.2	16.1
Camera	45.2	19.0	10.5
Car	16.9	9.0	9.4

Source: Statistical Yearbook 1979, p. 94

Table 10 lists only those types of equipment which influence the possibilities of direct and indirect contacts by their owners with the world in general and the world of culture in particular. The handicap of the agricultural population in this respect, though gradually diminishing, is evident.

(ii) Cinema-going and access to cultural services: In 1977, for every thousand inhabitants, there were 14.7 places in cinemas in towns compared with 5.8 in villages. As regards cinema attendance, in the same year, there were 584 urban cinema-goers per 1,000 inhabitants, compared with only 108 in rural areas.[6] These figures are directly connected with the variety of cultural stimuli available in the social environment of pupils, influencing strongly their mental development. Films, theatre, concert halls, museums etc. are widely recognized as important auxiliaries to schooling.

As regards access to cultural services in general,[7] in every Polish town there is at least one of each of the following five cultural service centres: a library; a shop or booth of the 'Ruch' chain (selling journals, books and small objects of cultural use); a Press and Book Club; a Culture-room club; and a cinema.

5 Zdzislaw Grochowski 'Dochody gospodarki chlopskiej w latach 1971-1975 i prognoza do roku 1980' (Incomes of peasant economy in 1971-1975 and the forecast until 1980) in : 'Rolnictwo Polskie w latach 1971-1975' (Polish agriculture in 1971-1975).

6 Statistical Yearbook 1979, p. 407.

7 M. Strak 'Materialne uwarunkowania dostepu do kultury' (Material conditions for access to the Culture) in Wies i Rolnictwo, issue No.2, 1978 p. 149.

According to the 1970 census, the situation in the villages is much less satisfactory in this respect: over the whole country, the percentages of villages possessing these various centres were:

Library	71.6
'Ruch' shop or booth	12.8
Press and book club	23.7
Culture-room club	21.2
Cinema	2.7

The average number of cultural service centres per village was 1.3 and 20.4 per cent of villages had none of the above-mentioned centres at all.

4. The importance assigned to the principle of egalitarianism

The list of non-educational inequalities revealed by macrostatistics could be extended: for reasons of space, however, we have mentioned only a few which have a direct connection with education and upbringing, with the cultural level and intellectual development of people. If we analyse these inequalities in a historical perspective (as we did in the case of the 'stock of education') we shall undoubtedly see a process of gradual reduction; on the other hand, however, a number of persisting disparities are also shown by the macrostatistical data, although their full extent can be discovered only by intensified empirical investigation. Macrostatistical data also exist which demonstrate the continuing inequalities between urban and rural areas in the educational field—in the network of schools, in the quality of the buildings and their equipment, in the quality of the teaching staff; these will be quoted later in this study, in the course of analysis of various empirical investigations.

Macrostatistical research data demonstrate clearly that legal and educational system regulations are in themselves inadequate as a means of abolishing rural/urban inequalities. Only through much more sophisticated empirical research can we establish the kinds of additional deliberate action necessary to remove the existing barriers to promotion through education.

B. Debatable definitions of 'countryside', 'rural area', etc., as the reason for the inadequacy of dichotomous analysis

In the preceding sections we have used a simple breakdown of the macrostatistical data into urban/rural or town/countryside groups. But even the most basic information—for example, that in 1978, out of 4.1 million pupils in primary schools, 1.8 million lived in rural areas—raises the question: what, really, is a rural area? How is it defined? And is this dichoto-

mous breakdown into 'town' and 'countryside', which is used in all official statistics, an adequate basis for deeper analysis of inequalities in education?

The indicators used for defining rural areas fall into four main groups.

(a) Juridical-administrative: Legal status, level of local authority, type of taxation, class (rank) of locality, salary norms, communal privileges, complexity of infrastructure, etc.

(b) Geographical: dispersed or concentrated settlement, land utilization, nature of buildings, etc.

(c) Demographic: number of inhabitants, density of population per square kilometre, birth, marriage and death rates, type and size of households, density of household occupation (persons per room), etc.

(d) Socio-economic: occupational structure, density of employment, consumption patterns, migration and commuting patterns, level of industrialization, local Gross Product or Income, etc.

In respect of all these indicators there are great differences between rural and urban areas.

Every country, of course, needs to create an operative definition of 'countryside' or 'rural area' for use in its macrostatistics. In practice it is not possible to make use of all the indicators listed above: the most commonly selected are (a) legal status; (b) size of settlement; (c) density of population and of employment; (d) percentage of inhabitants working in agriculture; and (e) some indices of living conditions.[8] The wider range of indicators is used in empirical research only.

What would appear at first sight to be the simplest indicator of rural area or village—size of settlement as measured by the number of inhabitants—is in fact too simple. It is not even comparable internationally, as Table 11 shows.

The indicator of 'legal status' is the next simplest, and is used to this day in Australia, Brazil, Bulgaria, Canada, Denmark, England and Wales, Norway, Poland, South Africa, Sweden and the USSR. Let us consider this indicator as it is applied in Poland.

The attribution of the status of 'town' or 'village' to a human settlement in Poland is established by an administrative act. This is expressed in a separate legal status (for instance, the inhabitants of a village are exempt from certain urban taxes, but have certain obligations unknown in towns, such as road maintenance work), in the localization of the centres of authority and their nomenclature ('Communal National Council' or 'Urban National Council') and, for villages, the existence of some administrative

[8] Planck U. Ziche J. 'Land- und Agrarsoziologie', Stuttgart, 1979, pp. 23-24.

Table 11: Sizes of villages in selected countries

Maximum number of inhabitants for a settlement to be classified as village or rural commune	Countries
250	Denmark
300	Iceland
1 000	Sweden, Canada, New Zealand
1 500	Ireland, Panama, Colombia
2 000	Austria, Argentina, France, Switzerland, Turkey Federal Rep. of Germany
2 500	USA, Mexico, Porto Rico, Venezuela
5 000	Belgium, Greece, India, Portugal
10 000	Italy, Japan, Spain
20 000	Netherlands

Source: Planck U. Ziche J. 'Land und Agrarsoziologie', Stuttgart, 1979, p. 23-24

links not found in towns (the office of a village bailiff, the Director of a Communal Central School, etc.). In principle, the administrative decision concerning the urban or rural status of a settlement results from an analysis of the socio-economic and ecological conditions, the historical traditions, and the socio-cultural peculiarities of the locality concerned; in practice, however, this analysis is far from precise. Moreover, the administrative decisions are invariably much slower than the pace of actual change in the locality. As industrialization progresses, therefore, many highly urbanized settlements develop which, through simple inertia, continue to enjoy their 'rural' status (and, incidentally, distort the macrostatistics of urban/rural disparities). Similarly, there are many small old towns which, as a result of changes in economic geography and the structure of the country, have declined and become subject to far-reaching ruralization, although they still retain their traditional urban status (and

thus in the opposite sense distort the macrostatistics). Both types of settlement—the 'very urban villages' and the 'very rural small towns'—falsify the picture of the real educational disproportions between towns and countryside, though it is difficult to estimate the extent of this statistical distortion.

As an illustration of the foregoing remarks, it is interesting to note that the number of towns in Poland, which from 1960 to 1970 had remained constant at 889, decreased by 10 per cent, to 803, between 1971 and 1978 as a result of the checking carried out and the resultant administrative changes; during this latter period, however, the number of inhabitants of towns increased by 3 million. Furthermore, it should be pointed out that of the 803 towns statistically existing in Poland in 1978, no less than 57 per cent had less than 5,000 inhabitants[9] and would therefore be defined in some Western European countries as villages (see Table 11 above).

Drawing an exact borderline between towns and villages (and, in consequence, the exact measurement of the inequalities between them) is becoming increasingly difficult. In many countries therefore, including Poland, while in more thorough analyses a dichotomous division into towns and countryside is still made, it sets out to establish typological formulations defining the types ('real' or 'ideal') of the villages according to the degrees of 'rurality' and 'urbanity' on a continuum passing through a series of intermediate forms between extreme types (100 per cent village/100 per cent town). What is the basis for constructing such a continuum?

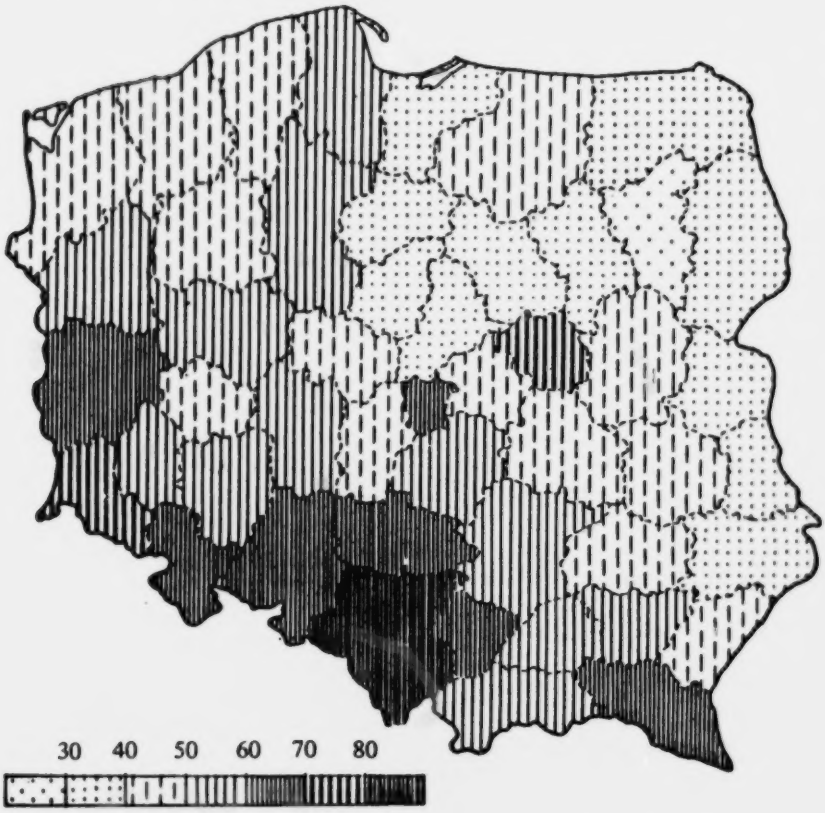
Traditionally, in Poland, every settlement inhabited by a population working on the land and deriving its principal means of subsistence from the land was considered to be a village. The problem in many countries, including Poland, is that with advancing industrialization fewer and fewer localities meet this criterion. In Poland as a whole, as we saw earlier, less than half the population work on the land and derive their subsistence from agriculture. In 1978, in some voivods[10] the proportion of the population subsisting on agriculture was very small—15 per cent in Katowice, 25 per cent in Jelenia Gora, 28 per cent in Watbrzych.[11] Obviously, many elements of the socio-economic and cultural situation in the villages of these regions will differ considerably from those of villages in voivods where a high proportion of the population subsist on agriculture—Lomza with 77 per cent, Zamosc with 69.5 per cent, Ciechanow with 66 per cent, for example (see *Map 2)* These elements are the levels of industrialization

9 Statistical Yearbook, 1979, p. 33

10 Voivodship—one of 49 administrative units, comparable to 'Bezirk' in Germany or 'departement' in France.

11 Statistical Yearbook, 1979, p. 36.

Map 2. Poland 1978: The voivodships according the share of non-agricultural population in percentage of total population dwelling in rural areas



Source: Stasiak, A. "Population and the settlements in rural areas" in: "Polish countryside 2000", Warszawa, 1980, p.19 (in Polish)

and urbanization, the distances from urbanized centres, the quality of communications, and the density of the infrastructure (the network of commercial, medical, educational, administrative, cultural and other institutions). Taking only some of these elements into account, the Central Statistical Office (CSO) in Poland distinguishes seven macroregions and, on a more detailed scale, no less than 90 microregions, differing mainly in the degree of their urbanization and industrialization.

For the macrostatictical investigation of educational inequalities this is, of course, a greatly improved classification, but for the purposes of empirical research it has two drawbacks: it introduces too high a number of individual units (90), and it is based on too few elements of differentiation (industrialization and urbanization only). The CSO macrostatistical analyses identify three types of area: metropolitan areas, industrial areas and centres, and, lastly, weakly (or slightly) urbanized areas; rural areas just come into this last category. Some researchers (e.g., from the Institute of Agricultural Economics), on the basis of this socio-economic regionalization of the country, selected for each region a particular 'representative society'—a locality which typified to the greatest degree the specific characteristics of the region. In these localities they proceeded to a more thorough analysis which would be valid for the whole region, and also made comparisons between the individual regions of the country.

These attempts to marry a macrostatistical approach with some typological analysis reduce the element of superficiality of the purely dichotomous approach. Nevertheless, they are still inadequate for specialized investigation into urban/rural inequalities, since they do not take into consideration many important differences between different types of villages (and towns). For a deeper insight into the existing urban/rural inequalities a different approach is needed, and in the next section we will discuss this in the light of the experience gained by our research team.

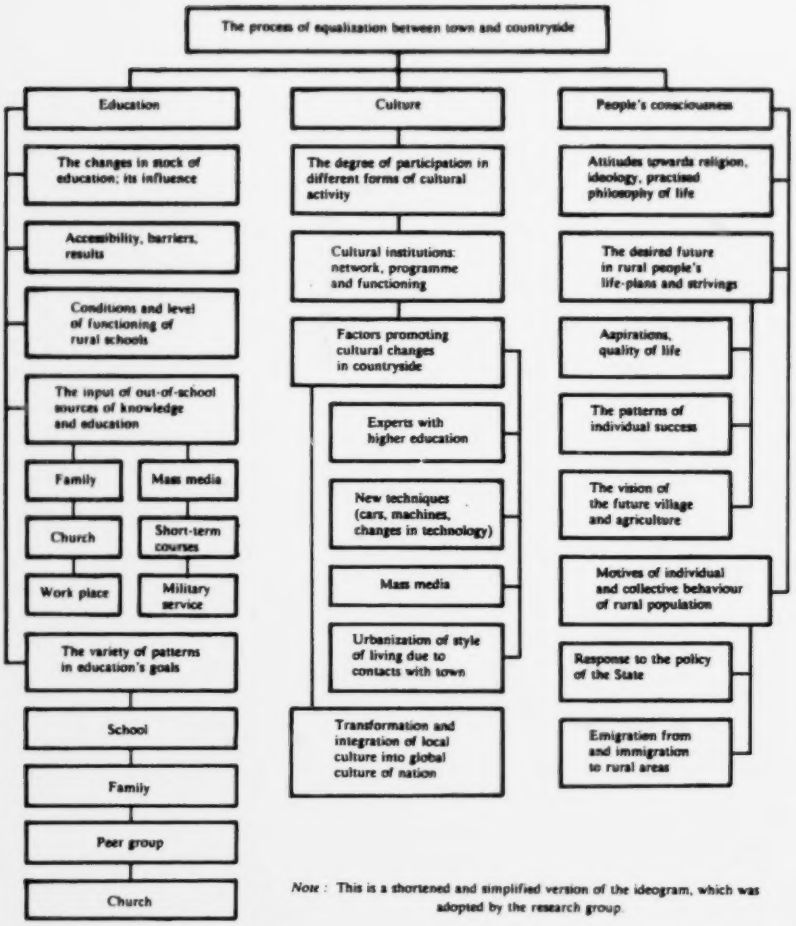
2. Beyond the dichotomous approach: research based on more detailed typologies of rural/urban variables

The experience of our team in the Polish Academy of Science during the three years 1967-69 convinced us that thorough investigation of rural/urban inequalities in education was not possible as long as the field of investigation was exclusively confined to purely school problems. In consequence, the model adopted in 1970 as the guide-line for the team's ten-year research plan, 'Factors affecting access to education', goes far beyond strictly 'school' problems (see *Figure 2*).

During these ten years, therefore, the process of reduction of educational inequalities was investigated and analysed from three points of view: school and educational changes; cultural changes; and changes in the consciousness of the rural inhabitants themselves. This experience has convinced us that this comprehensive approach to research on the equalization of educational opportunities (or, rather, life opportunities) of inhabitants of the countryside and of towns was right. There are several reasons for this:

(a) Concern for equality of educational opportunities, at least in Poland, is justified not only by the principle of social justice itself, but also by the conviction that education is the chief factor for modernizing people's thinking, and also for modernizing agriculture, as an important sector of the economy.

(b) Cultural inequalities—not only of the quality of the culture available to rural inhabitants, but also of the level and intensity of their cultural needs—are not only a separate field, where more extensive disparities between town and countryside are found; they are also in themselves one of the causes of educational inequalities. In addition, the schools have a powerful potential ally for implementing their educational aims in the rural cultural centres; and in these days, some at least of the cultural changes occurring in the countryside are an important factor in facilitating (or hampering) the school system in carrying out its tasks.


The process of equalization between town and countryside
Education
The changes in stock of education; its influence
Accessibility, barriers, results
Conditions and level of functioning of rural schools
The input of out-of-school sources of knowledge and education
Family
Mass media
Church
Short-term courses
Work place
Military service
The variety of patterns in education's goals
School
Family
Peer group
Church
Culture
The degree of participation in different forms of cultural activity
Cultural institutions: network, programme and functioning
Factors promoting cultural changes in countryside
Experts with higher education
New techniques (cars, machines, changes in technology)
Mass media
Urbanization of style of living due to contacts with town
Transformation and integration of local culture into global culture of nation
People's consciousness
Attitudes towards religion, ideology, practised philosophy of life
The desired future in rural people's life-plans and strivings
Aspirations, quality of life
The patterns of individual success
The vision of the future village and agriculture
Motives of individual and collective behaviour of rural population
Response to the policy of the State
Emigration from and immigration to rural areas

Note : This is a shortened and simplified version of the ideogram, which was adopted by the research group.

Figure 2. Factors affecting access to education

(c) The inclusion in the plan of research into the changes in the range of social consciousness resulted from the conviction that the obstacles to educational equality are not always objective, but stem from the convictions and attitudes of the rural inhabitants themselves, and also from the want of harmony between the educational (and other) policy of the State *vis-à-vis* the rural areas and the real aspirations, tendencies and desires of their inhabitants.

This concern to give the investigations a comprehensive character and to ascertain *all* the factors which exert an influence on school destinies and on people's intellectual development appears in the first section of the organigram (Figure 2) which deals with educational changes. In addition to the influence and action of the school itself, the part played by out-of-school sources of knowledge in education and upbringing is also investigated—such sources as family, the mass media, the workplace, military service, the church and religious institutions, peer-groups, etc.

There is, however, another reason for this concern with comprehensiveness. By its investigations our team aims not only at the collection of data, of knowledge of the realities involved, but also at influencing State policy in this field of reducing urban/rural inequalities. All our investigations have, in addition to their purely cognitive and theoretical aspects, a practical aim: to supply scientifically checked forecasts as an aid to decision-making regarding successive innovations by those responsible for the State Special Reports and Memoranda, and to supply data on the real results of earlier State actions in the field of reducing inequalities.

At the same time the research programme presented in the model leads our Research Group to carry out not only sociological investigations (though these inevitably predominate), but also investigations in the fields of psycho-pedagogy, pedagogy, psychology—mainly in social psychology—and history.

The main hypotheses for our research were linked with the principal goal of the Institute itself, which can be briefly stated as 'the reconstruction, modernization and improvement of the countryside as the place in which people live, and of agriculture as the domain in which they work'. These hypotheses are the following:

(a) Improvement in the educational level of villagers changes their way of thinking, making it more 'scientific'; opens their minds to innovations; raises the level of their needs and expectations; and makes them more critical and unsatisfied.

(b) Education, by disseminating the values of overall human and national culture, weakens the influence of isolated local customs; fosters the cultural homogeneity of the country as a whole; and accelerates the processes of urbanization in the life-style, aspirations and values of villagers.

(c) The school, offering the people various levels of education, of different quality and leading to a wide range of careers, becomes the main distribution centre of chances for success in life. However, the school, while it can provide more equality of opportunity for all, may nevertheless perpetuate or even aggravate existing inequalities.

(d) By giving different skills to the rural population—both those remaining in agriculture and those leaving it—the school system has the important rôle of a 'steering mechanism' with regard to controlling migration from the countryside, and building the social structure of rural-area manpower in agriculture (as regards both quantity and quality).

(e) The changes in ways of thinking and in life-style resulting from longer and better education are affecting rural family life and the patterns of socialization in the rural family, promoting changes in the fertility of women in an 'urban' direction—with all the socio-economic consequences of such urbanization.

(f) The education variable differentiates opinions, attitudes, ways of living and of working, the productive effectiveness of farming, participation in culture, the division of marital and familial rôles, etc.—which are reflected in concrete human behaviour and the practical activity of people.

The foregoing main hypotheses of our research are focused on the long-term consequences of any kind of inequality in access to education, and in the quality of the knowledge acquired in schools of equal rank, for the future of rural people as individuals, and of the village as a whole.

3. Analysis of educational inequalities by various methods of classifying the 'rural areas'.

A. The sequential continuum of villages

An excellent illustration of the sequential continuum of villages, as opposed to the simple dichotomou approach, can be found in the research of Wlodzimierz Winclawski.[12] In the framework of our team's research he decided to investigate the impact of industrialization on various kinds of educational inequalities between urban and rural areas in the region of Plock, some 120 km. from Warsaw, in order to answer such questions as:

- Does the degree of urbanization of the rural areas in fact increase the nearer they are to the town of Plock, which is a 'pôle de croissance' of the region under industrialization?

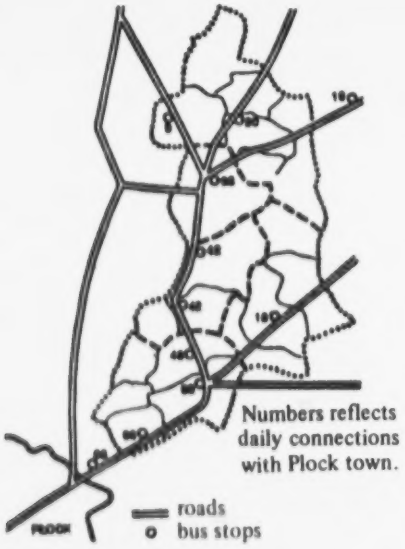
- As the degree of urbanization increases, do the differences between rural and urban areas in fact decrease in regard to the physical and mental development of their inhabitants, their level of intelligence, and finally their education?

In order to obtain such a continuum not only 'on paper' but also existing in reality he selected, in the region of Plock, the commune of Bielsk. This commune has a particularly elongated form (see *Map 3).* adjoining the town of Plock in the south and stretching northward for 20 km. to the limit of the region under investigation. It therefore offers an ideal cross-section of the region under industrialization.

In the area of this commune there are 19 villages, differing greatly one from another. The author settled for two years in the area (1970-71), conducting his investigations while working as a teacher in a village school, together with his wife. The shape of the commune automatically gave a particular spatial continuum of the villages according to one factor: their distance from the centre of industrialization; for example, the villages

12 Wl. Winclawski 'The changes in educational milieu of villages in a region under industrialization' in Polish, Warsaw, 1973.

Map 3. Transport and communication facility in commune Bielsk



Map 4. Rank of urbanization of 19 villages in commune Bielsk

closest to the town have up to 68 bus connections with it daily, whereas those in the north of the commune have only from 0 to 9 connections daily. This simple continuum was, of course, not sufficient for a comprehensive investigation, and Winclawski decided to form an empirical continuum of the 19 villages, based on five indicators of urbanization:

(a) The degree of occupational heterogeneity, based on the diminishing amount of purely agricultural occupation in each village.

(b) The density of population (inhabitants per square km.)

(c) The percentage of persons commuting daily to work.

(d) The communications network, based on the nearness of bus stops and the number of daily connections to the town.

(e) The distribution and numbers of institutions in the area of more than merely local importance (such as service, economic, political, educational, cultural and social institutions).

The results of these investigations are summarized in *Table 12*, which gives the rank order of the nineteen villages for each of the five indicators and, in the last column, the overall rank order.

Map 4 shows the spatial distribution of the villages by rank order for all five indicators combined, from 1 (the highest, attributed to the one small agricultural town, Bielsk) to 19. While in general this continuum of villages by index of urbanization agrees with the simple spatial continuum based solely on distance from the town of Plock (the nearer the village the more it is urbanized, and *vice versa)*, it is noticeable that the exceptions are connected with the communications network (compare Map 3).

Checking the rank correlation between the five indicators by means of Spearman's rank correlation coefficient gave four correlations at the 0.01 level of significance (correlation coefficient > 0.552) and five at the 0.05 level (correlation coefficient > 0.364). Only the correlation between commuting to work and the stock of super-local institutions was statistically insignificant.

The carrying-out of detailed analyses involving nineteen villages proved in practice too complicated, and the author accordingly subdivided the commune into five zones (indicated by the thicker lines on Map 4) as follows:

Table 12. Level of urbanization of 19 villages in Bielsk commune

Village	Degree of occupational heterogeneity	Density of population	Commuting to work	Transport and communications facilities	Distribution of institutions	Total of ranks	Level of urbanization (complex-rank)
Bielsk	1	1	2	5	1	10	1
Ciachcin	4	2	8	4	2	20	2
Debsk	6	6.5	9	18	14	53.5	10
Drwaly	15	16	10	7	9	57	13
Gilino	7	8.5	4	8	14	41.5	8
Gizyno	2	14	1	12	5	34	6
Goslice	8	3	12.5	2	5	30.5	5
Jozinek	10	10	12.5	9	14	55.5	12
Konary	14	11	6	6	14	51	9
Kuchary	18	12.5	16	11	14	71.5	17
Leszczyn Ks.	11	15	11	13	9	59	14
Leszczyn Szl.	3	6.5	18	10	3	40.5	7
Rudowo	12	12.5	5	16	9	54.5	11
Smilowo	13	18	14	17	7	69	16
Tchorz	9	5	7	1	5	27	3
Tlubice	19	17	19	19	9	83	19
Ultowo	17	19	17	15	9	77	18
Zakrzewo	16	8.5	15	14	14	67	15
Zukowo	5	4	3	3	14	29	4

Zone	Area	Urbanization rank
0	The small agricultural town of Bielsk	1
I	Villages nearest to Plock	2
IIa, IIb	Villages at medium distance from Plock	3.5
III	Villages furthest from Plock	5

The majority of the analyses were carried out by reference to this continuum rather than to the nineteen individual villages. By this means Winclawski established a continuous increase (in line with increasing urbanization) in such phenomena as:

- quality and equipment of living accommodation;
- amount of leisure-time of children, and school attendance (i.e., decrease of absenteeism);
- stock of education of inhabitants;
- weight and stature of children;
- earlier puberty in girls;
- cultural participation and consumption (newspapers, books);
- level of school knowledge (as measured by tests);
- level of intelligence (as measured by Raven's test at ages 11-12 and 13-14);
- number of persons continuing education after obligatory school attendance);
- number of children with sufficient mental maturity (as measured by tests) for commencing obligatory schooling at the age of seven.

These are all undoubtedly related, either as cause or as consequence, with the existing educational inequalities in rural areas. Some examples, chosen from the wealth of tables and data in Winclawski's work, will illustrate the procedures used to determine the necessary indicators and scales to measure the existing inequalities.

1. Quality and equipment of living accommodation

This was measured by such indicators as:

(a) age of house;

(b) material of walls: 1. clay; 2. wood; 3. hollow clay block; 4. brick;

(c) material of roof: 1. thatch (straw); 2. shingles (wood); 3. tar-paper; 4. tiles; 5. iron sheeting;

(d) material of floor: 1. mud (dirt); 2. wooden planking; 3. plastic tiling; 4. parquet.

In addition, points were allocated for the existence of electricity, mains water, and central heating, and for the habitable area of the dwelling. For each indicator a 0-10 point scale was applied, giving for all eight indicators a possible quality standard of 80 points maximum. For example, the maximum score of 80 points applied to a new house (built within the last two years), with brick walls, metal-sheeting roof and parquet flooring, equipped with electricity, mains water and central heating, and with a minimum of 60m² habitable area. Similarly, a house built before 1900 with clay walls, thatched roof and mud floor, without electricity, mains water or central heating, and with less than 30m² of habitable area, was rated at 0 points. By these standards Winclawski investigated a total of 1,220 houses, and thus calculated the average number of points per house in each village and, subsequently, in each zone. The results are given in *Table 13*.

The same data were used to determine the inequalities in housing between different social classes *(Table 14)*.

2. Stock of education and school attendance

Winclawski's investigations into the 'stock of education', measured in years of schooling per inhabitant in the five zones, gave the results set out in *Table 15*. The rate of school attendance (or, conversely, of absenteeism) was measured for each zone for pupils in grades VI-VII in the years 1952-70. The results are shown in *Figure 3*. In Bielsk, for example, in the period 1965-70 the absenteeism rate was only 4 per cent.

These data were not difficult to obtain, but the procedure, involving the statistical checking and calculating of the attendance registers of all classes in all schools in the commune for the years 1952-1970 was extremely time consuming. The rate of absenteeism is in itself an indicator of the attention given to schooling by parents and children, and also one of the reasons for poor learning achievement.

Table 13: Average standard of houses

Zone	Average number of points
I	19.95
IIa	18.01
IIb	18.46
III	15.37
Bielsk	17.76

Source: Spearman's rank correlation coefficient +0.4321, p = 0.05

Table 14: Standard of housing according to the socio-professional category of the family

Category of the family	Average number of points
Intelligentsia	21.57
Workers from State Farms	21.36
Peasant-craftsmen	19.78
Workers	16.85
Peasant-workers	16.17
Peasants	15.20
Retired, other non active	13.81

Table 15: Years of schooling according to age group

Zone	Age groups			
	14-17	18-24	25-49	50 and above
I	7.8	8.5	6.6	3.1
IIa	7.6	8.3	6.0	2.9
IIb	7.4	8.3	5.7	2.8
III	7.0	8.2	6.0	3.2
Bielsk	7.9	9.3	7.7	3.9

Note: Spearman's rank correlation coefficient +0.6885, p = 0.001

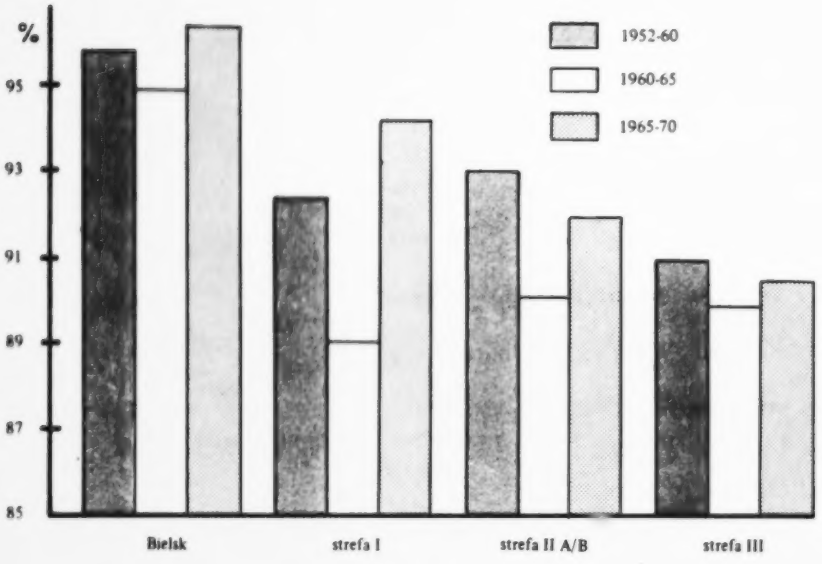


Figure 3. School attendance rates

3. Cultural participation and consumption

A special scale was drawn up to measure the level of cultural activity of the family—a factor which undoubtedly has a great influence on the educational achievements and aspirations of the children. Points were awarded to each family on the scale which is itemized on the following page.

(a) Reading of books	5 titles per year	1 point
	6-10 titles per year	2 points
	11-15 titles per year	3 points
	16-20 titles per year	4 points
	More than 20 titles per year	6 points
(b) Newspapers: each title	if subscribed	5 points
	if bought daily	4 points
	if bought at least twice a week	2 points
	if bought less than once a week	1 point
(c) Periodicals (monthly/weekly)	if regular	3 points each
(d) Radio and TV for each favourite programme		2 points
(e) Cinema attendance	monthly	1 point
	more than monthly	3 points
	weekly	5 points

The results are summarized for the five zones in *Table 16*.

Table 16: Cultural activity per family

Zone of continuum	Number of families	Total points	Average points per family
Bielsk	327	4 483	13.71
I	239	2 851	11.92
IIa	156	1 214	7.78
IIb	222	2 538	11.44
III	256	2 813	10.91

Note: Spearman's rank correlation coefficient was + 0.5734, p = 0.01

4. The weight and height of children

A comparison was made between the weight and stature of children aged 7 to 14 in the commune and the average figures for children in the same age-range in large towns. In every case there was a noticeable drop in the averages for children in the commune: the lower the degree of urbaniza-

49

tion, the greater the difference in physical development, as summarized in *Table 17.*

Table 17: Weight and stature of children (data for all population 7-14 years

Zone	Number	Difference large town/commune	
		Weight (kg.)	Height (cm.)
Bielsk	134	-1.3	-0.5
I	180	-1.3	-0.2
IIa	93	-2.4	-2.1
IIb	183	-2.4	-1.9
III	191	-3.5	-3.2

Note: Spearman's rank correlation +0.5659, p=0.01

The table is to read: in zone 1 the average weight of body was 1.3 kg. less than in big town, the average height of body 0.2 cm. less. The lesser grade of urbanization the bigger differences in weight and stature—and this means in physical development.

5. School-maturity level of 7-year-old children

This indicator is a measure of the mental capabilities, notions, and skills necessary for successful commencement of elementary schooling, as determined by the Wilgocka-Okon test on the threshold of obligatory schooling. Here again, the scores (as shown in *Table 18)* have a direct relationship with the level of urbanization of each zone.

Table 18: The school-maturity level of 7-year old children

Zone	Level of maturity (in points)
Bielsk	28.6
I	24.5
IIa	17.9
IIb	20.0
III	17.3

Note: Spearman's rank correlation coefficient +0.8145, p=0.01

Table 19: School careers of population born in 1949-1954 (in percentages)

Level of education	Bielsk	I	IIa	IIb	III
Dropped out from compulsory schooling	6.4	18.7	25.2	21.7	19.1
Finished compulsory schooling only	5.5	11.8	12.2	18.2	20.9
School for skilled agricultural worker	12.7	12.5	16.8	10.5	9.3
School for skilled worker	34.5	27.3	23.4	29.3	27.9
Technical secondary school	20.0	20.3	18.7	12.6	13.5
Lyceum/ grammar school	20.9	9.4	3.7	7.7	9.3
Total percentage	100.0	100.0	100.0	100.0	100.0
Total number	110	128	107	143	162

In addition to the data presented in Table 19, a special 'index of educational level' was constructed on the following basis:

Level of education	No. of points
Dropped out from compulsory schooling	-1
Finished compulsory schooling only	0
School for skilled agricultural worker	1
School for skilled worker	2
Secondary technical school	3
Secondary grammar school	4

Calculation: Number of pupils in each category multiplied by established points and divided by total number of pupils in village.

The resulting 'index of educational level' varied from +2.26 in Bielsk to +0.53 in some villages of Zone III (Spearman's rank coefficient was +0.4684, $p = 0.05$).

The 'index of educational level' was also used to compare the school careers of children according to (a) the social origin of the family; (b) the

type and size of farm—see *Table 20* and (c) the educational level of parents—see *Table 21*.

Table 20: Type and size of farm and the school careers of children

Type and size of farm	Index of educational level of children
Peasant farm up to 5 ha	+ 0.68
Peasant farm 5-7 ha	+ 1.06
Peasant farm 7-10 ha	+ 1.78
Peasant farm more than 10 ha	+ 1.58
Peasant-workers	+ 1.81
Workers with small plot	+ 2.06

Table 21: School careers of children according to educational level of parents

Years of schooling of parents	Index of educational level of children
0-3.0 years	+ 0.45
3.1-5.0 years	+ 1.39
5.1-6.0 years	+ 1.84
6.1-7.0 years	+ 2.31
7.1 years and more	+ 2.85

This extremely interesting investigation by Wl. Winclawski has been presented in some detail in order to demonstrate the incomparably deeper analysis of educational inequalities that is possible when a good sequential continuum is used instead of an approximate dichotomous approach.

In our own empirical investigations we used various continua (which will be described in greater detail) according to the particular research needs. For example, in the investigation of an industrializing region, the villages were ranked in function of their territorial distance from the centre of industrialization—the 'pôle' of economic development of the region: I. Suburban villages; II. Villages at medium distance; III. Villages remote from the centre.[13] In another research the sequential continuum was formed on the basis of the spatial situation and distance from local and

[13] Pôle de croissance, research by M. Kozakiewicz, p. 86.

supralocal centres of administration and other elements of infrastructure: I. Peripheral village; II. Central village; III. Suburban village; IV. Town.[14] A 'peripheral village' was classified on the basis not only of its geographical situation but also of the absence of institutional infrastructure. A 'central village' might be so classified in a remote rural area if its social and institutional infrastructure was highly developed.

The principle of investigating all inequalities only on a continuum was also firmly applied when for comparative purposes the situation in large towns was investigated. For example, Z. Kwiecinski[15] investigating the level of school knowledge in the large industrial town of Torun analysed the data obtained on a typological continuum of the town's quarters: (a) Town centre, (b) Newly-built quarters, (c) Old peripheral, (d) Intermediate.

The 'intermediate' classification included newly-built but not very modern residential quarters (one-family houses) and also school districts composed of settlements of different types (partly 'old peripheral' and partly 'newly built'). The usefulness of differentiating 'central' and 'peripheral' villages can be demonstrated by the data given in *Table 22*.

Table 22: Level of school knowledge according to type of village

Region/type of village	M	SD	SE
Region 1: Torun voivodship			
Central villages	19.7	14.79	0.562
Peripheral villages	15.8	12.42	0.684
Region 2: Wloclawek voivodship			
Central villages	16.5	14.75	0.683
Peripheral villages	15.4	13.32	0.479

Note: M = arithmetic average in test points; SD = standard deviation; SE = standard error.

The number of children investigated in Region 1 was 3,546, of whom 2,043 were in villages, 1,161 in the large town of Torun, and 342 in small towns; in Region 2 the total was 3,205, of whom 1,255 were in villages, 1,358 in the town of Wloclawek, and 520 in small towns. Table 22 gives only the data for village children; for comparison, *Table 23* gives analogous data for the town of Torun. A comparison of Tables 22 and 23 demonstrates that

14 Z. Kwiecinski *et al.*, p. 55.

15 Z. Kwiecinski 'Level of school knowledge and the environment of the school' in Polish, Torun, 1973.

Table 23: Level of school knowledge according to type of area in town of Torun

The type of area	M	SD	SE
Town centre	31.5	18.58	1.01
Newly-built quarters	27.8	17.49	0.67
Old peripheral	28.0	17.38	0.64
Intermediate	28.8	17.84	0.89

Note: Explanation of used abbreviations same as in Table 22

the average level of school knowledge is higher in towns than in villages, and also that all pupils in urban schools receive more knowledge, regardless of their place of residence—in the town centre, in modern newly-built quarters, or in old peripheral areas—even though some differences in favour of schools in the town centre can be noted.

B. Non-sequential continua

Sequential continua as discussed above can easily be applied to a uniform limited area—for example, an exclusively agricultural region, or a region undergoing intensive industrialization. But there are also, in every country, regions which are highly industrialized and have been so for a considerable time.[16] Winclawski was right to draw attention to the fact that a conservative village (or 'peripheral', in Kwiecinski's terminology) in a region that has been industrialized for a long time will differ by a number of important indices from a village in a region only beginning to be industrialized, and still more from a village as yet untouched by industrialization. Therefore, as long as the research is confined to an area (e.g., an industrialized commune or region) territorially limited and more or less uniform, a uniform sequential continuum of ideal types of villages, will represent similar traits with a similar degree of intensity. The problem is more difficult if it is proposed to carry out such an analysis on the highest level of generalization, involving the whole country: in such a case the spread of the sequential continuum between the two pôles of 'traditional village' and 'large modern city' makes it unusable and even misleading, since in every type of 'village' or 'town' of which the continuum is composed at least three variations should be taken into account—in a

[16] For more on this subject see: Mikolaj Kozakiewicz 'Szkolnictwo i uprzemysłowienie' (School system and industrialization), Warsaw, 1971, pp. 9-41.

purely agricultural area, in an area where industrialization has just begun, and in an area which has been industrialized for a long time. For this reason Wl. Winclawski, in carrying out a synthesis and generalization of typological investigations on educational environments in contemporary Poland, elaborated the following non-sequential (dispersive) continuum:

I - a conservative village in an agricultural area
II - a village in an area under industrialization
III - a suburban village
IV - small conservative town in an agricultural area
V - medium-sized town just now under industrialization
VI - big city industrialized for a long time.

The dispersive continuum takes account of the fact that between the ideal poles of a 'real village' and a 'real town' there are rural and urban intermediary forms. The further a given type is from the extremes of 'village' and 'town' the greater or smaller is its degree of urbanization. In this continuum the types of 'village' are analysed from the point of view of the increasing disintegration in them of 'typically rural' traits, and the towns from the point of view of their 'becoming towns' by the completion and strengthening of 'typically urban' traits. The continuum of ideal types constructed in this way serves principally for explaining and ordering (synthesizing) the data obtained by empirical investigation. The actual towns and villages investigated may approach or recede from the 'ideal' types included in the continuum, but it is possible to identify them—though not always, of course, with the same degree of precision. For lack of space we cannot detail all the results of Winclawski's research on typical educational environments in contemporary Poland (for which he was awarded a prize by the Ministry of Science and Higher Education) but there is no doubt that in spite of (or, perhaps, because of) the dispersive nature of his continuum he obtained an extraordinarily compact picture of the changes in the educational functions of the family, the schools and other institutions exerting an influence on the educational destinies and futures of young people, according to the type of rural or urban educational environment in which they are born, grown up and enter adult activities.

Although, as compared with the sequential continuum (as used in investigations in a territorially limited area of communes or regions), the dispersive continuum of ideal types described here has no counterpart in reality, it is nevertheless useful in analyses which synthesize the results of many empirical investigations, carried out in various areas by various researchers and by different methods, and generalizing them for the entire country in order to show sharply separated rural and urban types of environment, differing in particular in their potentialities for equalizing the educational opportunities of their inhabitants. Winclawski used this

method in his study[17] synthesizing the results of separately performed empirical investigations in the domain of educational environment—121 in the countryside and 130 in urban areas. In spite of the dispersive nature of his continuum, and of the 'ideal' character of the types used in his analysis, he provided one of the most complete descriptions of the educational environments currently existing in Poland and of the inequalities between them.

A full report of this synthesizing and generalizing work would require a broad summary of the whole book. We will limit ourselves to describing Winclawski's background hypothesis, and the problems he analysed on his non-sequential continuum.

The continuum is based on the notion of 'industrialization' (and consequently that of 'urbanization'). The main question he asked was: how does industrialization influence the life style of individuals, their destinies, and their achievements? And for Winclawski this question of influence can be asked in two ways: 'whether and how strongly', or, equally, 'in which way'.

To resolve this fundamental problem he elaborated a special theoretical scheme, and applied it when analysing all the types of settlement in his continuum (see *Figure 4*).

As this scheme shows, Winclawski understands by the 'life way of individuals' a gradual and increasing participation in System II (the system of potential possibilities—to have something, to become somebody, etc.). Everybody starts from System I (the system of actual environment—where he is born and grows up) and aims at System II. This offers many things which he wants, but which are too scarce to be available for everybody. Industrialization increases the number of goods offered; this in turn increases the level of people's aspirations and needs (hopes). At the same time, however, life and work in an industrialized society become more complex, and the requirements (e.g., educational requirements) of the potential users of its benefits increase accordingly. To satisfy these increased requirements, System I must respond with intensification of and appropriate changes in education. The existing inequalities between rural and urban areas in their chances to participate in System II are due to three factors shown in the scheme: (a) a lower level of socio-cultural development of System I; (b) fewer possibilities to perceive and use the advantages offered by System II; and (c) a higher level of negative selection, as a result of the weakness of System I.

Winclawski has demonstrated very convincingly that as one advances along his continuum the level of participation in System II increases. He found one basic cause of this phenomenon: namely, a status of inadequacy

[17] Wlodzimierz Winclawski 'Typowe srodowiska wychowawcze wspolczesnej Polski' (Typical educational environments of contemporary Poland), Warsaw, 1976.

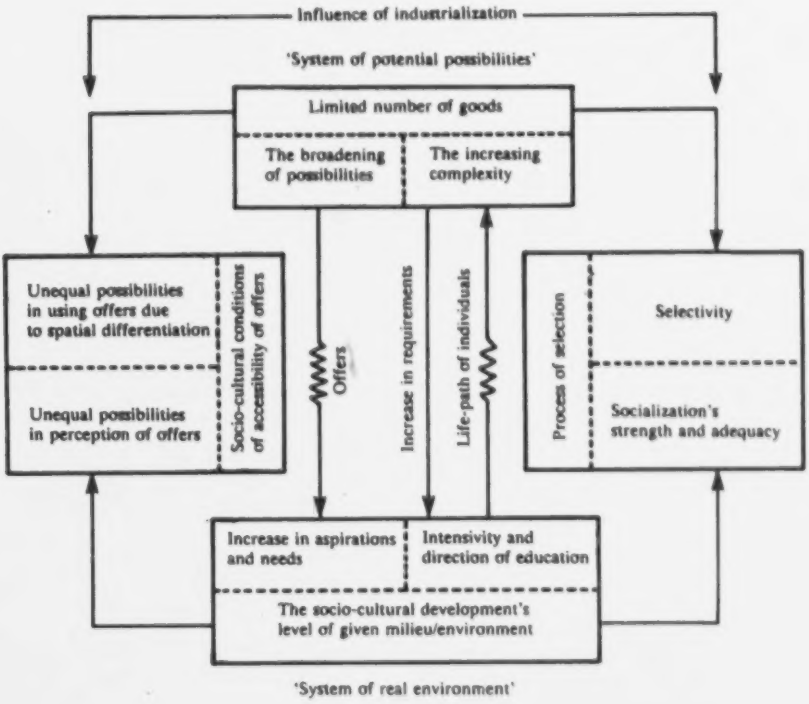

Influence of industrialization
'System of potential possibilities'
Limited number of goods
The broadening of possibilities
The increasing complexity
Unequal possibilities in using offers due to spatial differentiation
Unequal possibilities in perception of offers
Socio-cultural conditions of accessibility of offers
Offers
Increase in requirements
Life-path of individuals
Process of selection
Selectivity
Socialization's strength and adequacy
Increase in aspirations and needs
Intensivity and direction of education
The socio-cultural development's level of given milieu/environment
'System of real environment'

Figure 4. Theoretical scheme of 'Life way of individuals'

between Systems I and II (in the organization of life, in institutions, in family socialization, in the functioning of schools, etc.). Thus the educational environment in a conservative village in an agricultural area is completely out of harmony with the requirements of industrialized society—and, therefore, of System II. In the villages in an area undergoing industrialization these disharmonious elements in the educational environment are being overcome, but complete harmony is to be found in highly urbanized suburban villages.

Let us complete this brief description of Winclawski's use of his continuum by explaining his classification of the different villages and towns.

1. A conservative village in an agricultural area

This category covers villages in predominantly agricultural regions (as measured by the proportion of inhabitants working in agriculture) situated peripherally to industrial centres and larger towns: 25 to 30 per cent of all villages in Poland are in this category. It should be pointed out that the combination of predominantly agricultural economy and peripheral situation is not sufficient *per se* to classify a village as 'conservative'. Additional criteria are needed: poor soil, backward agricultural technology, poor technical equipment, underdeveloped road and communications networks. A 'conservative' village lives its own life; it is largely self-sufficient, its links with external markets are weak and it is characterized by labour-intensive economy and production. Another typical trait of a 'conservative' village is the high stability of its population (no immigration); the links with land ownership are strong, and land still holds a high place in their hierarchy of values; there are strong community traditions, many of them reaching far into the past. The educational level is low; as many as 70 per cent do not complete compulsory schooling, whereas the proportion for all villages in Poland is slightly less than 50 per cent.

2. A village in an area undergoing industrialization

This category covers villages situated in areas which were formerly agricultural but in which large new factories or plants have been built. These new industrial plants (practically towns in themselves) are regarded as 'pôles de croissance' for the region—which is defined as the area within daily commuting distance for work (and for school) in the centre of industrialization. Such villages are the scene of a remarkable acceleration of all the processes of urbanization, including education and school careers.

3. A suburban village

This category is self-explanatory.

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4. A small conservative town in an agricultural area

This is typically a town of up to 20,000 inhabitants, with a poor rate of development and an incomplete socio-economic infrastructure. It is remote from the main communications network and it is entirely dependent on agriculture, outside the range of influence of any industrial 'pôle de croissance'. Of the 772 towns in Poland with populations up to 20,000, slightly less than 50 per cent are in this category, preserving old habits and customs and the traditional types of social relations, a specific hierarchy of social status and rôles, and specific forms of social control and public opinion. Such towns are very frequently in decline, and in urban sociology a special concept, 'rotten small town', is used to describe them. The numbers of inhabitants and of employment opportunities available are static (or even decreasing), side by side with increasing ruralization in the occupational structure and the way of life.

5. A medium-sized town currently being industrialized

Self-explanatory (the 'pôle de croissance' mentioned above).

6. A large town already industrialized

Also self-explanatory.

C. The 'comparative monograph' method as a practical implementation of the non-sequential continuum

The non-sequential continuum as used by Winclawski for large-scale analysis of the whole country can also be applied in empirical investigations in actual sharply-defined areas. A good example can be found in the research carried out by another member of our team, Zbigniew Kwiecinski. In order to carry out a profound analysis of the qualitative aspects of rural educational problems—aspects difficult to isolate when investigating an entire region in a single project—this author decided to undertake monograph studies within a defined range of problems in two villages: a 'peripheral village' in an agricultural area, for which he selected Ciche Gorne, a mountainous locality in Southern Poland, and a typical central village in an area undergoing rapid industrialization—Brudzen in the Plock region of Central Poland. These villages correspond to categories I and II on Winclawski's dispersive continuum. Since they are 400 km. apart as the crow flies it is obvious that no direct comparison was involved; the aim was to investigate the incidence of inequalities in two villages of a sharply differentiated socio-economic profile. Ciche Gorne is typical of the most backward villages, those to the least degree affected by the changes brought

about by industrialization; such villages represent some 25 to 30 per cent of all Polish villages. Brudzen, on the other hand, is a village undergoing rapid change as a result of industrialization; it is within the effective area of a 'pôle de croissance', at a medium distance—up to 30 minutes travel by bus—and therefore exhibits intensified traits of rapid urbanization, as described earlier.

Together with Wl. Winclawski and a group of researchers Kwiecinski investigated Ciche Gorne for two years; the results were published in 1972.[18] Upon leaving Ciche Gorne he spent three years in the village of Brudzen, working as a teacher and investigating educational development; the results of the two investigations were compared in his second book, also published in 1972.[19] This is, so to speak, a further development of Winclawski's concept of the 'comparative monograph'; Kwiecinski compares all the data he has collected about the two villages. In other words, he confronts a peripheral village in an agricultural region (Ciche Gorne) with a central village in a region undergoing industrialization (Brudzen), and also refers his comparative analysis of Brudzen to other villages in the region, to the town of Plock, and to data on voivodship and to Poland as a whole.

The basic premise of his analysis is the adoption of an ideological and (in Poland) compulsory principle of the 'uniformity of the school system'—this involves not only uniformity of curricula but also identity of accessibility, of the level of knowledge, of the further careers resulting from education, etc.

This wide conception of 'uniformity of the school system' excludes inequality—at least in theory. On the basis of official documents and statements Kwiecinski determined what should be the assumed function of the uniform school, in intellectual development and education: and then, by empirical investigation, he tried to discover what is in fact the actually fulfilled function of the rural school, and whether it is really uniform. When his investigations revealed considerable differences and deviations from the principle of uniformity, he tried to discover the ecological, social and cultural conditioning of these inequalities in the functioning of the school. This was a qualitative study of the work of the school itself, and of the way in which the inequalities in the primary school are in turn the main cause of numerous later inequalities (unequal promotion, inaccessibility of better schools or of universities, inequalities in success in life, etc.).

[18] Z. Kwiecinski, 'Funkcjonowanie szkoly w srodowisku wiejskim: Studium wsi peryferyjnej' (The functioning of the school in the rural environment: study of a peripheral village), Warsaw, 1972.

[19] Z. Kwiecinski, 'Funkcjonowanie szkoly wiejskiej w rejonie uprzemyslawianym' (The functioning of a rural school in a region under industrialization), Warsaw, 1972.

Kwiecinski used numerous techniques of investigation: (a) participatory observation during three years' residence in the village concerned; (b) interviews, both open and concealed; (c) test measurements; (d) analysis of school records; (e) opinion polls; (f) sociometric methods; (g) analysis of pupils' work (class and home-written tests, drawings, albums, etc.).

Although the elementary school at Brudzen was the main object of the research, the author investigated by the same techniques (in addition to the peripheral village school in Ciche Gorne) 48 further schools, both primary and a grade above primary. Of these, 19 primary schools were in villages of the region undergoing industrialization, 6 were in the town of Plock, and 5 were in purely agricultural villages; the remainder were schools above primary level. In all, in 48 schools, he investigated 158 classes attended by 3,856 pupils: in this way he forestalled and prevented any accusation that he was basing general conclusions on a comparison of incomparables (the mountain village of Ciche Gorne with a village undergoing industrialization).

From the wealth of documentary evidence collected by the author we can present only a few examples of the inequality between rural and urban schools, and of the equalizing influence of industrialization and urbanization.

(a) *Reading comprehension.* Investigation with the Unesco test showed that the results obtained by Grades 7 and 8 pupils in a rural school in the region undergoing industrialization are not far short of those obtained by pupils of schools in towns and large cities. In the peripheral village of an agricultural region results were considerably poorer.

(b) *Quality of pupils' vocabulary.* Investigation of pupils' knowledge and understanding of 100 terms used in the curricula of various subjects gave further evidence of the inequality of schools. For example, in Grade 7, the percentage of correct answers was 40.5 per cent in the village of the region undergoing industrialization, compared with 28.3 per cent in the peripheral village: in both cases, however, it was a much poorer vocabulary than in urban areas.

(c) *Stock of mathematical knowledge* (as checked by the Unesco test). In grades 7 and 8 it was found that the results in urban schools were one-third higher than those in rural schools generally; but that industrialization did not have as great an equalizing influence on mathematical knowledge as on vocabulary and language. In fact, the percentage of pupils obtaining insufficient results in the Unesco test was considerably higher (58.3 per cent of those tested) in the village of the region undergoing industrialization than in the peripheral village (43.2 per cent). The investigation showed that from the point of view of mathematical knowledge, only 25 per cent of the pupils in the village of the region undergoing industrialization were qualified to enter secondary school, compared with as many as 40 per cent of the pupils in the peripheral village. On the one hand, this demonstrates that mathematical knowledge is relatively independent of the

environmental conditioning of the pupil; on the other hand, it emphasizes dramatically the inequality of educational opportunity as between the peripheral village, the central village in a region undergoing industrialization, and a town. At Brudzen, as in the town of Plock, 100 per cent of the pupils hope to attend schools above the primary level, and 30 per cent to attend secondary schools of general education, whereas in the village of Ciche the comparable figures are only 10 and 2.5 per cent respectively. This is because the educational opportunities offered in a region undergoing industrialization differ completely from those in a purely agricultural region, being greater even for pupils with less knowledge and learning.

1. The inequality of school knowledge as a basic cause of unequal educational opportunities

Kwiecinski's research, which we have only partly described, demonstrated that the basic cause of the unequal share of rural (agricultural) youth in the higher stages of education lies in the rural primary school and in the low level of teaching.

Table 24 shows clearly the fundamental difference between the quality of knowledge obtained by pupils in urban schools and by those in rural schools, and also the extent to which industrialization of an area improves the quality of the rural schools.

Table 24: Average results of vocabulary tests compared with the established mean of 100

Class	Town	Village in a region under industrialization	Village in an agricultural region
IV	118.6	46.2	34.8
V	98.6	49.8	40.2
VI	76.8	42.6	30.2
VII	86.8	34.0	32.2
VIII	77.6	40.6	31.6
Total	89.4	42.0	33.6

The realization by pupils (and teachers) of the poor quality of the education in rural schools is one of the reasons for the low educational aspirations of the pupils: their auto-criticism leads to the abandoning of more ambitious plans, such as progressing to a secondary school and, later, to higher education.

This phenomenon of the self-elimination of the poorer-level pupils was demonstrated when the author investigated the educational plans of pupils in relation to their level of school knowledge *(Table 25)*.

Table 25: Type of schools chosen by children of VIII grade

Level of knowledge	Type of chosen (desirable) school			
	for skilled farmers	for skilled workers	technical secondary	grammar school
Very poor: village	30.7	57.4	7.7	4.2
Very poor: town	–	93.8	–	6.2
Poor: village	15.0	32.0	32.0	21.0
Poor: town	0.9	42.2	30.2	26.7
Good: village	–	14.3	35.7	50.0
Good: town	–	16.6	29.6	53.8
Very good: village	–	–	40.0	60.0
Very good: town	–	3.7	15.3	81.0

Note: Data refer to town and village in region under industrialization only.

These data lead to an obvious conclusion: the pupils are themselves fully aware of the low level of their school knowledge, and the great majority are self-eliminating (even in their dreams) from proceeding to better schools—technical secondary or grammar schools. In order to measure more exactly the inequalities which exist in the level of knowledge itself, Kwiecinski established a rank order of seven levels of knowledge on the part of pupils (based on the percentage of correct answers to test questions), thereby obtaining an even more dramatic picture of the level of knowledge of primary school pupils *(Table 26)*.

This table is self-explanatory; its analysis of the results obtained by testing 3,800 pupils demonstrates clearly the underlying inequality of the educational opportunities inherent in the primary school itself, and in the unequal value of the knowledge imparted by it. An intensified analysis of the monographic data from the villages of Ciche Gorne and Brudzen enabled the author to locate the causes of these inequalities in the family milieu, in the style of work of the teachers, in the equipment of the schools, in the conflict between the two rôles of the children (school pupil versus member of a farming family), etc. Furthermore, in rural schools there is a higher proportion of pupils who repeat one or more years: in urban areas one pupil in 16 repeats at least once during the period of school attendance, but this proportion rises to one in five in villages

Table 26: Level of knowledge of primary school pupils

Percentage of correct answers	Level of knowledge	Percentage of total pupils in a given category		
		Town	Industrialized village	Agricultural village
0-5	Functional semi-illiterate	0.4	7.3	10.9
5-15	Very low	4.4	32.7	42.8
15-30	Low	19.7	33.5	34.2
30-45	Sufficient	23.7	16.3	9.9
45-60	Good	27.3	5.7	1.9
60-75	Very good	17.0	1.6	0.3
75-100	Excellent	6.9	0.4	0.0

undergoing industrialization, and to one in four in purely agricultural villages. The level of knowledge of repeaters is always lower than that of non-repeaters, but even here it appears that the level attained by urban repeaters is higher than that achieved by those in the villages.

D. The historical continuum of villages

The continuum of the various types of villages as they exist at present sometimes proves inadequate for the in-depth study of a rural area; some differences and inequalities are rooted in the history of villages, in their historical origins. For practical reasons we have always restricted our investigation of the history of a village to the last hundred years, but historical development over this period is usually taken into consideration in evaluating the present status; and sometimes a different, historical, continuum has been developed to explain various differences in, for example, marriage patterns; the sociometry of human relations in the village and in the school classes; the leaders of local opinion; the authority of the school teachers; etc. All these apparently non-educational aspects are, however, frequently of the highest importance for a deeper understanding of rural education.

Such a historical continuum was used by Wlodzimierz Winclawski in his investigation of the commune of Bielsk (see above, p.32). He differentiated three types of village on the basis of their historical background:

(a) Old villages, with farms inherited from time immemorial (2 villages);

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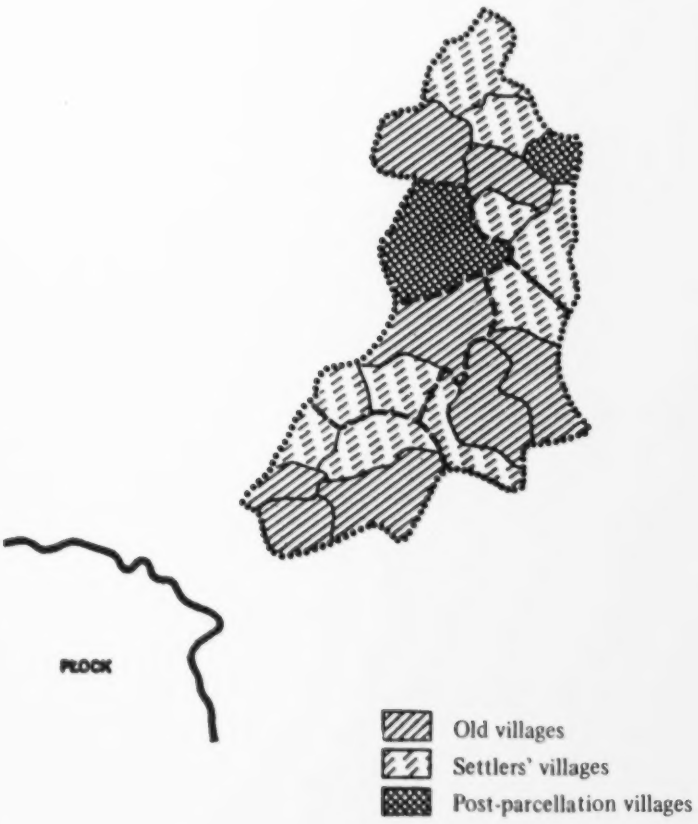
Map 5. Types of villages according to their historical origin



(b) Settlers' villages, in which the farmers had acquired their land when large estates were divided up in the years before the war—1922, 1926, 1929 and 1938 (9 villages);

(c) Post-parcellation villages, whose inhabitants received their land as a result of the agrarian reform of 1946 (9 villages).

These three types of villages are shown on *Map 5*. This proved to be a useful typology for investigating such non-educational matters as marriage customs, the degree of cultural integration of the village, sociometric choice, leadership of public opinion, popularity, etc. The index of the educational level of the children related to the historical background of peasant families is shown in *Table 27*.

Table 27: Index of educational level of children and the historical background of peasant families

Historical background	Index of education
'Parcellant'-farmers family	+ 1.03
Small hereditary farmer family	+ 1.28
Medium hereditary farmer family	+ 1.75
Heterogeneous, non-farmers family	+ 2.02

Note: explanation of 'Index' on page 43.

In certain other investigations an important historical variable was found to be the 'peasants/nobles' dichotomy. This is now merely a historical relic, but in some regions of rural Poland the villages with a 'small nobles' tradition still differ in many respects from 'pure peasant' villages. In such regions a three-fold historical differentiation is used: 'nobles' village/'nobles-peasant' mixed village/peasant village. In certain other European countries (e.g., Yugoslavia), as in many developing countries, these historical differences between villages might play an even bigger rôle than in Poland; for this reason we have included a description of the historical continuum in the present study.

4. Analysis based on classification of whole regions according to their level of urbanization

In our team's investigations we generally used a restricted number of indicators (five in Winclawski's study) as the basis for building sequential continua. A much more extended list of indicators was applied by Anna Pawelczynska when she studied the dynamics of cultural changes (including educational changes) in rural areas in 1966.[20] Instead of building up a continuum of villages on the 'town—traditional village' axis, she investigated the rank order of 17 voivods; on the basis mainly of macrostatistical data she was able to arrange them in an order ranging from those in which the countryside *as a whole* is most urbanized down to those in which it is urbanized only to a very small degree. As indicators of the urbanization and industrialization of rural areas she used the following:

(a) Proportion of town-dwellers as compared to country-dwellers;

(b) Numbers employed in industry as proportion of total active population;

(c) Proportion of population inhabiting towns of over 10,000 inhabitants;

(d) Density of population per km^2.;

(e) Length of railways per 100 km^2.;

(f) Length of metaled roads per 100 km^2.;

(g) Degree of electrification of the countryside.

20 Anna Pawelczynska 'Dynamika przemian kulturowych na wsi: Metoda badania glowoych tendencji', (Dynamics of cultural changes in the countryside—Method of investigating main trends), Warsaw, 1966.

Analysis of the relationships between individual indicators in the 17 voivods investigated (by Spearman's rank correlation coefficient) showed some strong correlations, some weak, and one negative (see *Table 28*).

A second set of indicators used in this investigation referred to the conditions of participation in education and culture:

(a) Level of education of the population (a dichotomous division: those with only primary education or less, and those with education above primary level).

(b) Data on subscriptions and sales of newspapers and periodicals in the countryside.

(c) Data on ownership of radio and television receivers in rural areas.

(d) Data on cinema attendance in the countryside.

Spearman's rank correlation coefficient was high or very high (0.570 to 0.843) in all domains except cinema attendance (a similar conclusion was reached by Winclawski, page 40). In addition, correlating the data on level of education with the indicators of urbanization, Pawelczynska found a high correlation with the following:

urban/rural proportion of population	+0.590	
length of railways	+0.830	
length of metaled roads	+0.794	$p = 0.01$
electrification	+0.668	
employment in industry	+0.668	

She found an absence of correlation, however, with population density or with the size of towns.

In each domain investigated, Pawelczynska endeavoured to establish a table, ranking all 17 voivods, per each indicator, from the highest level (Rank 1) to the lowest (Rank 17). A typical example is shown in *Table 29*.

The ranks were subsequently inter-correlated, without preliminary weighting *(Table 30)*.

The same procedure was followed with all macrostatistical data, and with the findings of cross-national empirical research.

The work of Anna Pawelczynska provided a very complex multidimensional picture of the differences in urbanization level among the 17 voivods, as reflected in the different components of village culture. She has always aimed at identifying those factors of economy and culture which, once established in a given area, increase the statistical probability of the establishment of each remaining factor in that area. Education is, of course, a very strong factor in this context.

Table 29: Rank-list of 17 voivodships according to the indicators linked with cultural life in countryside

	Rank of voivodship				
	Level of education	Radio listening	Newspaper reading	Cinema attendance	TV viewing
Opolskie	1	1.5	9.0	7	2
Katowickie	2	1.5	2.5	17	1
Gdanskie	3	7.0	8.0	6	4
Krakowskie	4	13.0	11.0	14	6
Wroclawskie	5	4.0	1.0	5	3
Zielonogorskie	6	3.0	5.0	2	7
Bydgoskie	7	9.0	7.0	8	9
Olsztynskie	8	10.0	10.0	4	12
Koszalinskie	9	8.0	4.0	3	13
Rzeszowskie	10	14.5	14.5	10	16
Poznanskie	11	6.0	8.0	15	8
Warszawskie	12	11.0	16.0	16	5
Szczecinskie	13	5.0	2.5	1	11
Lodzkie	14	12.0	13.0	12	10
Kieleckie	15	17.0	17.0	13	14
Lubelskie	16	14.5	12.0	11	15
Bialostockie	17	16.0	14.5	9	17

Notes: (a) Level of education: percentage of people with more than compulsory education

(b) Radio: number of radio sets per 100 households

(c) Newspaper reading: number of newspapers and periodicals subscribed and sold per 1,000 population

(d) Television viewing: number of TV-sets per 100 households

(e) Cinema attendance: number of cinema-visits per year per 1,000 population

Table 30: Rank correlations

	Television	Education	Radio	Newspapers	Cinema
Television	-	0.797	0.748	0.551	-0.145
Education	-	-	x	0.570	0.125
Radio	-	-	x	0.843	0.319
Newspapers	-	-	-	x	0.507
Cinema	-	-	-	-	x

Note: Except 'cinema attendance', all correlations on $p = 0.01$ or $p = 0.05$

5. The analysis of inequalities within villages

The various continuums and other methods of measuring educational inequalities discussed earlier served to reveal the real dimensions of such inequalities between different kinds of villages and other settlements—small towns, large towns, etc. But within the villages themselves, there are internal inequalities between people: some are subject to more and some to less discrimination and deprivation. Who are the chief victims of the 'inequality between urban and rural areas in the domain of education'? Who are the 'youth suffering from educational discrimination as a result of living in the countryside'? In Poland, at least, the following replies can be found:

A. Who are the rural youth? Various definitions

1. 'Rural youth' consists of all those born and reared in the countryside, or living there at the time of the investigation: boys and girls in the various age-groups established for the various research needs—e.g., 15-19 years, 20-24 years, or younger groups. But this overall grouping necessarily includes the children of industrial and white-collar workers, intellectuals, teachers, doctors, agricultural engineers, and similar groups living in the countryside, quite often born there, but who (as demonstrated by observation and research) are in no way inferior in their living conditions and educational level to their urban counterparts. In addition, the academic achievements and future careers of these children are related more to a social position and educational level of their fathers than to their place of residence (as shown by the investigations referred to on pages 19 and 37-39). The inclusion of these children in the investigation of rural/urban educational inequalities distorts the picture of the actual situation; a more restricted definition of 'rural youth' has therefore to be adopted.

2. Educationally discriminated 'rural youth' consist solely of that section of the young inhabitants of the countryside whose parents work in agriculture or for whom agriculture is the main source of the family's livelihood. The

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notion of 'rural youth' in general is thus replaced by the notion of 'agricultural youth'. But, on closer analysis, it is obvious that even this restricted definition does not solve the problem. The reason is that included in the category of persons working in agriculture and drawing their subsistence from it are a large number of, for example, civil servants, technicians and engineers employed in the servicing of agriculture, in what is known as 'agro-business', as well as the workers in tractor and seed stations, veterinary workers, and the directors, managers, engineers and technicians of the large state farms. Their children certainly do not suffer from educational inequality. Even restricting the category still further, to 'the children of agricultural producers', that is, of those directly involved in agricultural production (excluding those who service this production from outside or who process or distribute agricultural produce), does not ensure that such children can be considered as rural youth handicapped by living in the countryside. It cannot be denied, for instance, that the highly qualified workers on state farms participate directly in agricultural production, since these farms cover nearly 20 per cent of agricultural land and provide the same percentage of agricultural output. We have to formulate an even narrower definition of 'rural youth' as victims of educational inequalities.

3. Educationally discriminated 'rural youth', then, is equivalent to 'peasant (farmer) youth', the children of individual farmers making their living by daily work on their land, and of those agricultural workers who do not have land of their own but whose main source of income derives from physical work on the land. This definition of 'rural youth' most nearly coincides with that section of society which suffers most from the educational inequalities between urban and rural areas. For more precise analysis, even this section is sub-divided into groups, for example according to the area of land owned (usually areas of less than two hectares, of 3-5 hectares, of 6-10 hectares, of 11-12 hectares, and of over 12 hectares); and a sub-group is often singled out, that of 'farmer-workers', i.e. 'bi-professional farmers'—their living and educational situation is different (usually favourably so) from that of pure farmers, and in Poland they represent one-third of the total number of individual farmers.

For other reasons, in investigating suburban villages another group is singled out: 'gardeners' farms' (fruit- and flower-growing and market-gardening). In spite of their small size (often only 2 to 3 hectares, but nowadays under glass) they are extremely profitable and their owners usually have complete secondary agricultural education or, frequently, are graduates of agricultural academies. If data on the living and educational standards of these families were included, the general picture of the situation of the rest of the peasant population or of the individual agricultural producers in the area concerned would be statistically distorted. In older statistical surveys a similar distortion was caused by the inclusion of the owners of large latifundia or the landlords of large estates in the category 'population drawing its living from agriculture'.

4. In some studies, including these of our team, on the adaptation of emigrants from the countryside into the towns, a special category of 'rural youth' has been created to cover all these who had been born and brought up in the countryside, had had all their schooling there, and had then moved into the towns where they were living at the time of the investigation. In other words, this is 'youth of rural origin', and in Poland in 1970 this category accounted for some 35 per cent of urban inhabitants; they showed certain differences, both structural and in respect of their careers, when compared both with those who had stayed in the villages, and with those who had been living in towns from their birth.

In the official macrostatistical data the division into rural and urban youth is most frequently carried out in terms of the simplified first variant, identifying rural youth solely by place of residence at the time of the investigation (without enquiring whether the respondent had been born and brought up in the village or had recently arrived there from a town). The macrostatistical data for Poland regarding the social origin of pupils in the various types of schools in the years 1970-80 show successively different divisions into categories, as illustrated in *Figure 5*.

As this figure shows, in establishing the social origins of pupils microstatistics use indirectly the third variant of the notion 'rural youth' to define the degree of equality of educational opportunity, but without any internal differentiation in the category: inevitably, the picture of the situations of the various sub-groups in the category is obscured.

In order to show this internal differentiation, and to establish the scale of differences in equality of access to education for young people living in the countryside, sociologists prefer a much more precise division of the rural population into socio-professional categories, thus obtaining a picture much closer to the reality than that offered by macrostatistics. As an example of such an extended classification of the origins of rural youth, *Table 31* gives the system as worked out by a member of our team, Wlodzimierz Winslawski, for his empirical panel research in the commune of Bielsk in 1967-77.

This very detailed categorization of the various sub-groups to which 'rural youth' can belong clearly shows the real internal complexity of the composition of the present day rural population. Each sub-group, as the investigation showed, is affected in different ways, for different reasons, and in different degrees, by 'inequalities of education as between towns and villages'. Needless to say, it was not necessary to use so detailed a categorization of rural families in every case, showing the exact internal differentiation of the village; in fact, its use is counter-productive when the aim is to demonstrate more clear-cut differences between the various groups. A more simplified breakdown was generally used: for example,

Classification 'A'	Classification 'B'	Classification 'C'
I. Peasants	I. Peasants	I. Persons employed (a) as workers (b) as non-workers
II. Workers	II. Workers	II. Members of agricultural production co-operatives
III. Whitecollar workers and intellectuals	III. Others	III. Self employed, including individual farmers
IV. Others		IV. Others.

Notes: A. Classification routinely used in 'Statistical Yearbooks' up to 1976.
B. Classification used in the 'Statistical Yearbook of School Education' 1975-1976, p. 149.
C. Classification routinely used in the statistical yearbooks of 1977, 1978, 1979.
Attention is drawn to the fact that the children of members of agricultural production co-operatives have been singled out in a special group, although they actually accounted for 0.7% of Grade 8 school-leavers in 1978-79.

Figure 9: Figure 5. Different classifications of social origin of pupils, 1970-1980

I. farm workers		I. peasants
II. peasants (small-holdings)		II. biprofessionals
III. peasants (medium holdings)		III. small-plot holders
IV. owners of large farms	or	IV. workers
V. workers		V. state-farm workers
VI. craftsmen		VI. white-collar
VII. others		workers

The general conclusion from these investigations was that although the process of urbanization reduces the overall inequality *between* towns and the countryside (particularly as regards inequality of educational and cultural opportunities), at the same time it increases the inequalities among the different sub-groups *in* the countryside. In other words, the equalizing of the situation as between urban and rural areas is simultaneously accompanied by increasing differentiation among the rural inhabitants, who

Table 31: Types of families according to the professional and social structure of their members, Bielsk commune, 1970

		No.	%
A.	Peasant families with holdings	475	38.7
B.	Biprofessional families	262	21.4
C.	Agricultural workers' families	40	3.2
D.	Families subsisting mainly on extra-agricultural sources, who in addition work a farm plot of up to 2 ha.	58	4.8
E.	Families subsisting exclusively on extra-agricultural sources	310	26.3
F.	Families subsisting on non-salary revenue (e.g retirement pension, invalidity pension)	70	5.6
	Total	1 224	100.0

Source: Wl. Winclawski, 'Changes in the educational environment of a village in an industrializing region' Warsaw, 1973 pp. 65-66.

profit from urbanization at unequal rates and degrees—as a rule, the peasants profit to the least extent.

To illustrate this situation, *Tables 32, 33 and 34*, extracted from our research, demonstrate the utility of a more detailed detailed classification of rural society, and at the same time provide provide additional information about the inequalities existing in present-day Poland.

This somewhat classical way of demonstrating the internal differentiation of youth living in the countryside in respect of their educational situation is usually based on the socio-economic status of their parents. In all our investigations, however, we invariably carried out a number of additional analyses to trace the influence of such variables as the level of education of the parents (a very strongly correlated variable), the family size, sex of the pupils, etc. As our results were generally in agreement with those obtained by other researchers, we shall confine our remarks here to a general conclusion: agricultural youth everywhere proved to be the most handicapped; although when attending urban schools it obtained much better results than when attending school in the countryside, it nevertheless belonged to the category obtaining the lowest results in urban schools.

Table 32: Changes in the social structure of pupils over 3 years

Social origin of student	The structure of classes			Changes of the structure during 3 years: III:I
	I	II	III	
Intellectuals	3.5	4.2	7.6	150.9
White-collar workers	10.1	10.0	13.3	92.6
Working in services	3.9	5.8	6.1	108.7
Skilled workers	27.4	27.9	31.7	81.1
Unskilled workers	15.4	13.8	11.4	51.8
Peasant-workers	4.1	4.0	2.5	42.9
Peasants up to 8 ha of land	16.6	14.4	10.3	43.7
Peasants more than 8 ha of land	12.1	10.2	7.7	44.2
Craftsmen	2.3	4.3	2.7	81.1
Others	4.5	5.8	6.7	103.4
Total: Percentage	100.0	100.0	100.0	70.1
Number	3 227	2 774	2 261	

Source: Z. Kwiecinski, 'Time budget of pupils and their environment' (in Polish) Warsaw, 1979, p. 70)

Note: This table demonstrates unequal representation of different social classes resulting from drop-out and repetition.

Table 33: Aspirations of pupils in their final year to continue study after compulsory schooling last class (VIII)

Social origin of pupils	School for skilled workers	Secondary school	Higher education	No answer (undecided)
Unskilled worker	40.5	37.5	16.6	5.4
Peasant	38.1	41.9	15.7	4.3
Peasant-worker	33.4	38.0	26.8	4.8
Skilled worker	30.4	38.0	26.8	4.8
Services	28.4	39.3	31.0	4.9
White-collar worker	13.5	26.4	54.2	5.9
Intellectuals	6.7	8.6	74.7	10.0
Others	31.1	37.7	23.0	8.2

Source: Ryszard Borowicz, 'Educational and occupational plans of young people and their realization' (in Polish), Warsaw, 1980, p. 89.

Note: The data reflect different levels of educational aspirations as expressed by 'plans' of 15 year-old pupils, just before end of compulsory schooling.

Table 34: The main causes of dropout in schools, by social category and respondents

Main cause of dropout	Social origin of respondents			
	Peasants	Peasant workers	Unskilled workers	Skilled workers
Need to help parents with farm work and housework	50.1	52.8	0.5	2.3
Bad socio-educational situation in family, lack of interest	16.7	16.7	30.6	11.6
Shortage of money, need to help the family	5.9	6.9	24.2	16.3
Illness, mental retardation, characteropathy	27.9	22.2	44.1	60.5
The school caused the dropout	0.3	1.4	-	-
Too far a distance from the school	0.5	-	-	4.6
Colleagues caused the dropout	0.5	-	0.5	4.6

Source: Z. Kwiecinski, *Dropout in rural schools* (in Polish), Warszawa, 1972, p.154.

B. The scale of wealth

Sometimes, however, a more sophisticated classification than the socio-economic background of parents is needed, in order to reveal more complex and exact causes of inequalities. Methodologically interesting was the demonstration of the connection between the level of school achievement by the pupil and the level of wealth of his family. For this purpose Z. Kwiecinski elaborated a scale of the level of wealth of a rural family, composed of the following indicators:

(a) Possession of the family home;

(b) The number of rooms in the home;

(c) The number of persons per room;

(d) The number of persons per room heated in winter;

(e) Equipment of the home—electricity, running water, bathroom, radio, television, motor-cycle, motor-car, bicycle, record-player, washing-machine, refrigerator, sewing-machine, vacuum cleaner, musical instruments of various sizes, library.

The maximum possible number of points was 86. The mean level of wealth among the inhabitants of Brudzen barely reached 31.7 points. But for the families of 'outstanding' pupils the mean was 67 points, and for the families of pupils at the lowest level (functional semi-illiteracy) it was only 24.2 points. The rest were arranged in a very logical sequence of increasing levels on the wealth scale side-by-side with increasing levels of scholastic attainment. (see *Table 35).*

The same relationship between the family wealth level and the pupil's school achievement was established in a less exact way when in 445 cases the level of the pupil's family wealth was based simply on the opinion of the teacher *(Table 36).*

We were of course aware that in using various indicators to measure the internal differentiation of a village we were in fact always dealing not with a single aspect of a local community, but with a syndrome of aspects grouped under a single term (name of category). This can be demonstrated by the example of classification based upon socio-occupational structure (Figure 6).

Being ideogrammatic, Figure 6 does not give an exact measure of the inequalities between different classes of the rural population, but only demonstrates the general trends. It is clear however that, for example, to be a peasant implies statistically in Poland that one will have less-educated parents, will grow up in the poorest family, will obtain the worst marks in

Table 35: The level of family wealth and school achievement in Brudzen

Family wealth	Evaluation of level of school achievement							
	1	2	3	4	5	6	7	8
Family wealth indicators (Average points)	24.2	28.3	27.6	40.6	42.5	41.7	67.0	31.7

Note: 1 = Functional semi-illiteracy, 2 = Very low, 3 = Low, 4 = Sufficient, 5 = Good, 6 = Very good, 7 = Outstanding, 8 = Overall.

Note: Maximum number of points for wealth indicators: 86. (Compare also Table 26, p.55).

Source: Z. Kwiecinski, 'The functioning of rural schools in areas under industrialization' (in Polish), Warsaw, 1972, p. 111.

Table 36: The level of family wealth and school achievement in Brudzen (teachers' opinions)

Evaluation of family wealth level by teachers		Average test score
1.	Poverty	13.0
2.	Bad	12.6
3.	Average	14.8
4.	Good	23.9
5.	Very good	29.2

Source: Z. Kwiecinski, 'The functioning of rural schools in areas under industrialization' (in Polish) Warsaw, 1972, p. 116.

school, will be most likely to drop out, and will plan one's future on a lower level of school career than others. Similar syndromatic diagrams can be constructed for other categories, such as family wealth level or level of parents' education, etc.

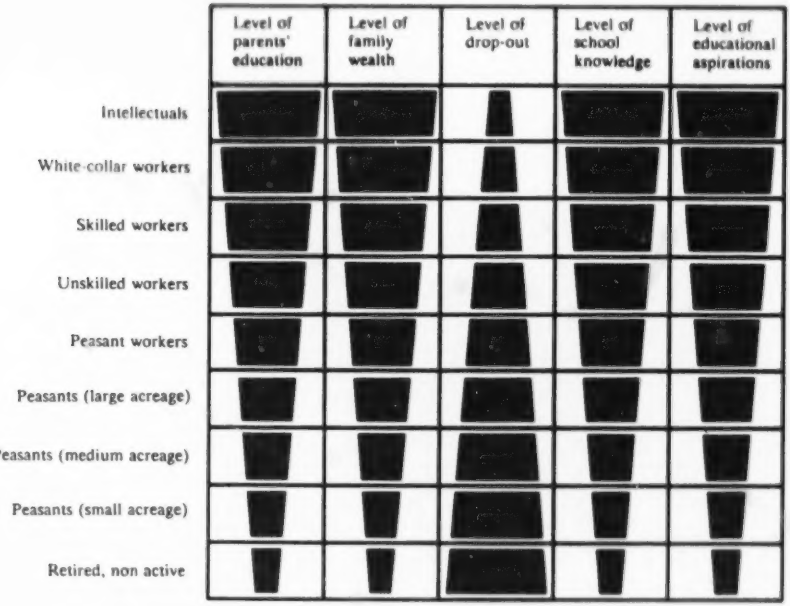

Figure 6. Example of classification based upon socio-occupation stucture

Table 28
Spearman's rank correlation coefficients

	Size of towns	Density of population	Roads metallized	Railroads	Working in industry	Share of rural population	Electrification
Size of towns	x	0.843	0.189	0.183	0.585	0.096	-0.116
Density of population		x	0.468	0.374	0.806	0.093	0.139
Metallized roads			x	0.882	0.468	0.686	0.765
Railroads				x	0.374	0.874	0.653
Working in industry					x	0.522	0.363
Share of rural population						x	0.598
Electrification							x

r 0.580 p=0.01 r 0.415 p=0.05 /at df=17/

6. An evaluation of various strategies for reducing inequalities between urban and rural areas

A. Industrialization as a means of reducing inequalities

The foregoing chapters have described the diagnostic methods of our team, aimed at the exact measurement of existing inequalities and at the discovery of their causes. We now turn to the methodology of our second type of research, in which we endeavoured to evaluate the various strategies applied by the State in order to reduce existing inequalities. Firstly, we will consider industrialization.

In Poland in the years 1960-70 industrialization was sometimes deliberately applied as a means of equalizing disproportions of development between different regions of the country. It consisted in the deliberate siting of a large new industrial investment project in an agricultural and poorly industrialized area, in order to provide manifold advantages for the inhabitants of a hitherto backward region. The new investment project thus became a 'pôle de croissance' for the development of the entire region, and the inflow of capital goods, money and employment opportunities thus created was expected to provide opportunities of economic and cultural development for all the inhabitants—and in particular, for the inhabitants of the region's villages.

Map 6 shows the proposed areas of accelerated industrialization, which for many years were the object of intensive investigation (by our research team as well as by others).[21] As this map indicates, some of these industrialized regions have developed as a result of the discovery of new deposits of mineral resources, such as sulphur (Tarnobrzeg), lignite (Konin and Belchatow) and copper (Lubin and Glogow), while others represent the deliberate siting of industry in backward areas—nitrogen and fertilizers in Pulawy and Wloclawek, petrochemicals in Plock. Whatever the reason for the industrialization project, all these regions were excellent 'laboratories' for research into the effect of industrialization on the equalization of opportunity for urban and rural areas in various fields, including educa-

[21] A Committee of Investigation of Regions under Industrialization has existed in the Polish Academy of Sciences since 1964.

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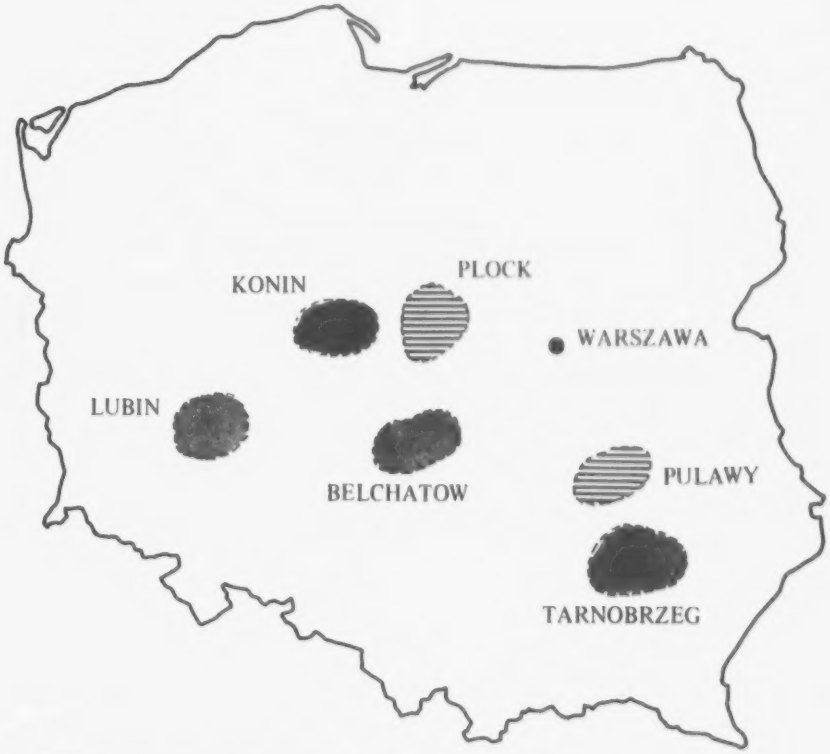
Map 6. Investigated regions under intensive and rapid industrialization



Industrialization due to new large plants (nitrogen-fertilizers, and petrochemical plant).

Industrialization due to newly discovered mineral resources (brown coal, sulphur, copper).

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tion. In newly industrialized areas, all social processes take place in a 'condensed' manner and accelerate in the course of a few years, accomplishing changes which otherwise extend over decades. Our experience shows that in such a region a full cycle of investigation should cover at least ten years, from the first decision to industrialize to the starting-up of the main investment project and the completion of the process of violent changes. Empirically, we established the existence of four essentially different stages in the industrialization of a region.[22]

Stage 1. The planning of the investment project, following the decision by the authorities concerned

This is a period of the awakening of hope and the social expectation of 'a better future', influenced by the prospect of changes. It was investigated in two ways: retrospectively, through the diaries in which people had described their reactions to the news of the decision to site a major project in their area, and prospectively by opinion polls based on the question 'What do you expect as a result of the industrialization of your region?'

Stage 2. The construction of the main project and of its ancillary plants

This period is characterized by increased mobility of the inhabitants of the region, by pendular migration, by the influx of new population, and by the breakdown of the old social structure, with numerous symptoms of social disorganization and of unequal participation by the inhabitants in the advantages of industrialization. It was investigated by comprehensive statistical research and numerous opinion polls, and by the setting-up of a permanent educational research unit in the newly industrialized region of Plock. Investigations were also carried out by participatory observation: two researchers, Z. Kwiecinski and Wt. Winclawski, worked for three years in primary schools in the region, acting simultaneously as teachers and researchers.

Stage 3. Conclusion of the construction, and starting-up of the main plant for the intended product

This is the period of the preliminary stabilization of new conditions, of the lessening of the symptoms of social disorganization, of the establishment of new avenues of promotion and career formation at the new level of inequalities, and of the shaping of a new style of living. It was analysed by follow-up (panel) studies of the same phenomena, using the same samples and the same methods, providing continuous observation of the on-going

22 M. Kozakiewicz, 'Szkolnictwo i uprzemyslowienie' (School system and industrialization), Warsaw, 1971.

processes and of the achieved level of improvement in the equality of educational opportunities.

Stage 4. The completed industrialization of the area.

This stage marks the end of the period of violent change, the emergence of a new equilibrium of relationships and living conditions in the region, the establishing of new groups, and the disappearance of the conflicts that this had entailed. In this period the results of the multi-discipline long-term investigations were synthesized, together with those on the effect of industrialization on the equalization of opportunities between urban and rural inhabitants. The research teams were withdrawn, but every five years there were repeated investigations of selected problems and environments (e.g., Wl. Winclawski's successive investigations in the Bielsk commune into changes in the educational level of the inhabitants and into emigration from the villages).

Having thus briefly summarized the periods of investigation, we turn now to a presentation of the main results of this research on the influence of such accelerated processes of industrialization on the reduction of inequalities between urban and rural areas, on the equalization of educational opportunities, and on the development of the school system.

The specific effects of the industrialization of a region result from the fact that the location of a large industrial plant in a hitherto agricultural area produces new, previously unknown or considerably less-widespread needs and expectations. These needs and expectations are addressed, in the main, to the local school system; first, by the inhabitants of the region themselves—especially the younger inhabitants, both indigenous and newly arrived; second, by the economic and administrative authorities of the region; third, by the management of the main investment project; and, fourth, by the didactic and educational needs which arise in the schools and are connected with the sudden quantitative and qualitative changes in the local school system itself.

The local inhabitants expect, first and foremost, higher incomes—due, at first, to participation in the construction of the project, and subsequently to employment in the plants. But while construction work for the new project rarely demands special skills, work in the new plants frequently requires them. This increases the demand for places in schools above the primary level, and young people expect to find them on the spot. The value of education rises on the social market, and this is expressed by a sharp decline in the drop-out rate in rural schools (Z. Kwiecinski), improvement in attendance rates (W. Winclawski), and an increase in school aspirations, particularly in rural areas of the region (A. Preiss, K. Gruber). As we shall see later, this is a transitory phenomenon, but it is undoubtedly very important and productive, both socially and culturally.

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The immigrant population, on the other hand, expect to find in the new region not only accommodation but also propitious educational conditions for their children. Since the immigrants into an industrialized region are mainly young people and young married couples, they also expect to find a well-developed network of crèches and kindergartens, to provide care for their (mainly very young) children and thus ensure that mothers can continue to work and make their contribution to the family budget—an important matter, especially for young married couples who are only beginning their progress to economic security (J. Piotrowski, I. Nowak, W. Izyk and others).

Whereas industrialization increases the pressure exerted by the indigenous population on the school system above the primary level (chiefly for vocational schools, since the primary schools have already been adjusted to local needs, at least quantitatively), the immigrants provoke an increase in the demand for places in crèches, kindergartens and primary schools (M. Kozakiewicz, W. Galant, F. Zalewski and others).

These two factors alone—the increase in post-primary educational aspirations of the indigenous population, and the pressure of immigrant children on institutions at the pre-school and primary levels—would lead us to expect a crash programme of development of crèches, kindergartens and schools of all kinds, to cope with the social demand and the expectations of the inhabitants. But other factors also have to be reckoned with.

The political and economic authorities of the region expect, primarily, that the schools will supply the work force for all branches of administration and production in the rapidly developing region in the necessary numbers, at the required time, and at the appropriate level of education (M. Kozakiewicz). In all the regions investigated, the staffing needs of the main investment project predominate in these expectations; their needs are for unskilled workers in the first stage, and highly skilled workers thereafter. The magnitude of these increasing demands requires a very rapid development of the schools, as was reported by researchers in two regions: in Lubin-Glogow during the ten years of industrialization (1960-70) the number of schools rose from 37 to 104, and the number of pupils in these schools from 8,300 to 30,000; and in Plock in the same period, the number of pupils in primary schools rose by 43 per cent, and in vocational schools by 375 per cent (from 2,400 to 9,000).

In the industrialized region of Konin and Putawy, however, no such rapid development of schools was recorded, and school development in the industrialized region of Tarnobrzeg was also weak. Intensive investigation into the relation between industrialization and the extent and pace of school development revealed the causes of this difference:

(a) the demands on the school system are greater and at the same time more serious, when the main investment project is based on a staff of skilled workers (e.g., Plock, Lubin, Pulawy), but are smaller when the

participation of non-skilled workers is large (e.g., the open-cast mines of Tarnobrzeg, Belchatow, Konin, Turek);

(b) the demands on the school system are greater when employment is based on local surpluses of manpower (e.g., Plock), but smaller when there is a deficit of manpower (e.g., Lubin);

(c) the demands on the school system are greater when the investment project is sited in an area of poor educational development, with no firm network of schools in the neighbouring districts, but they are smaller if a strong school centre has already been organized before the stage of industrialization, or if such centres are in the close vicinity (this explains the case of Pulawy);

(d) the demands on the school system are greater when the investment project is located in an area which has no previous history of industrialization ('Petrochemia' in Plock, or 'Azoty' in Pulawy), but are smaller if the project is a second or third investment of similar nature, since the previously established centres take on the teaching tasks, particularly in the first period (thus Pulawy trained the staff for Wloclawek, and Plock for Gdansk);

(e) the demands on the school system are greater in regions where errors had been made in educational policy, such as lack of synchronization of the rate and range of development of the various types of schools with the development of the region as a whole, and not only with the development of the investment project.

The real influence of industrialization on the reduction of urban/rural inequalities was also diminished by the monocentric development of the school system; it was concentrated in the capital city of the region, while post-primary schools in the region under industrialization itself stagnated or even regressed, particularly at commune level. This monocentric system of development also created grave problems as regards distance from school, especially for those living in rural areas.

In *Plock*, for example, opportunities for continuing education after primary school in 1970 (i.e., after ten years of industrialization) existed in fact for 100 per cent of pupils living in the town, as compared with only 77.4 per cent of those in the district (M. Kozakiewicz). In Pulawy, while practically 100 per cent continued schooling after concluding Grade VIII in the town, only 82.1 per cent of pupils from rural areas continued their education. Although the industrialization and the development of schools resulted in fairly good educational conditions in the Pulawy district, the extent to which the inhabitants of the district availed themselves of these opportunities was not uniform. In 1969 the proportions of school-leavers

from rural primary schools who entered general secondary schools were 8.5 per cent of the children of peasant families, 10.2 per cent of children of peasant-workers, 14.1 per cent of children of workers, and 50 per cent of children of white-collar families. At the same period 20.8 per cent of peasant children, 8.7 per cent of peasant-worker children, and 7.3 per cent of workers' children had no further education after primary school, whereas no children of white-collar families were found with primary education only (M. Szymanski).

In *Konin*, with as high an attendance rate of urban pupils in education above primary level (nearly 100 per cent), only a little over 70 per cent of rural pupils from the district were able to continue their education, because of lack of places in the schools (W. Galant).

Despite industrialization, the barrier of distance from school in the region is a differentiating factor, aggravated by the non-synchronized development of boarding schools in the capital city of the region and the unequal possibilities of commuting to school. Those living in the capital of the region have the best opportunities; those who live within a radius of two hours' travel by bus (in both directions) with easy access to a bus stop have less opportunities; and those who live at a distance of more than two kilometres from the nearest railway station or bus stop affording direct access to the regional capital have the worst opportunities.

Even if, throughout the regions, a massive promotion of workers' and peasants' children was observed, it was always on a smaller scale and at a lower level than that of those living in the regional capital. In addition, the beneficial influence of industrialization was less than expected, owing to many errors on the part of the planners. Three such errors can be enumerated as examples, though many others could be provided:

(a) too much emphasis was placed on the development of vocational schools, side by side with under-development of general secondary schools, thus diminishing the opportunities of pupils in the region in the race for higher education and post-secondary technical education, leading to higher status and better-paid jobs.

(b) too much emphasis was given in vocational schools to training in specialities directly connected with the main investment project, overlooking other types of training which are needed to keep pace with the rapid development of all the other branches of the economy-transport, communications, services, etc.

(c) delay in the opening of new schools, ignoring the time-lag necessary to produce the first output of locally-trained specialists (up to 5 years); as a result, local specialists frequently arrived on the market two to three years later than the peak demand for them in the region.

All these observations were included in the special expert report which we drew up for the managerial staff responsible for industrialization programmes, in the hope that similar errors will be avoided in future projects.

B. The effect of industrialization on the reduction of educational inequalities between urban and rural areas

Having analysed the general principles and main results obtained by our team regarding the influence of industrialization on the reduction of rural/urban educational inequalities, we will now consider some of the major investigations carried out and discuss their methodology.

The object of the research was to determine the extent to which the rural areas shared in the opportunities created by the setting-up of a major industrial complex in an agricultural region. The construction of a huge petrochemical complex in Plock opened up new opportunities for the inhabitants of the region in two domains:

(a) the creation of a large number of new jobs in modern plants;

(b) the organization of a large number of new places in the schools supplying workers for these plants.

The extent to which the villagers of the region could benefit from the industrialization project depended on their share of school education and of the new jobs. In order to simplify the task we studied only the two largest plants: 'Petrobudowa' and 'Petrochemia'.

The opportunities for finding well-paid employment were great: 11,000 persons were taken on by 'Petrobudowa' and 8,000 by 'Petrochemia' during the period 1960-68. The opportunities for acquiring education were equally good: in the seven newly-organized vocational schools supplying the needs of the main investment project there were 1,800 places. In schools of all kinds above primary level the number of places rose to 10,000—a tremendous figure for a small district whose capital had a population of only 40,000 at that time. In our investigation into the degree to which the inhabitants of the region, and in particular those of the villages, were taking advantage of this double opportunity we used the procedures described below.

1. Employment

All employees of 'Petrobudowa' and 'Petrochemia' were studied in order to determine:

(a) their level of skill at the time they were taken on—unskilled, skilled (basic vocational school), skilled (secondary technical school), skilled (higher education level).

(b) the locality in which they completed the education conferring their level of skill.

(c) their last place of employment before recruitment to the works at Plock.

(d) their place of residence.

This investigation was based on a statistical analysis of the replies to the personnel questionnaire completed by the 11,000 workers employed at 'Petrobudowa' and the 8,000 employed at 'Petrochemia' during the period—i.e., a 100 per cent coverage of the whole population concerned.

2. Education

In the seven vocational schools supplying the needs of 'Petrobudowa' and 'Petrochemia' we studied 1,528 pupils (i.e., 83 per cent of the total enrolment) on the following basis:

(a) their sex;

(b) their place of residence during schooling—in the town of Plock or outside it—and how those coming from outside had overcome the problem of distance from school—by commuting, boarding-school, workers' hostel, etc.;

(c) their parents' profession (father), identifying workers, peasants, white-collar, craftsmen and others;

(d) the territorial range of recruitment of the schools under investigation—Plock, the region of Plock, other areas of the country;

(e) the spatial extent of commuting from the villages of the region to the schools, with an analysis of the conditions (time and expense) of commuting.

The generalized results of these investigations were included, among others, in the preceding section. But it is worthy of remark here that this enquiry showed that the inhabitants of the region under industrialization took the largest share of *unskilled* jobs (and therefore of the lowest-paid jobs): 88.2 per cent at 'Petrobudowa' and 81.5 per cent at 'Petrochemia'.

Their share in *skilled* jobs was smaller—72 per cent at 'Petrobudowa' and only 45.5 per cent at 'Petrochemia'. The remaining workers were recruited from all over Poland, as was demonstrated by plotting their former place of residence on maps—see *Map 7*.

This state of affairs undoubtedly resulted from a lack of suitably skilled persons resident in the region. This rendered even more important the survey of the social composition of the pupils in the seven vocational schools, in order to determine whether the education afforded was likely to give rise to greater equality in the future between urban and rural areas in respect of the employment advantages to be drawn from industrialization. The survey showed that this was not the case—at least until 1969. In the seven schools concerned, 49.5 per cent of the places were occupied by pupils living in the town of Plock itself. Thus, of the 1,820 pupils in these schools, 920 (50.5 per cent) came from elsewhere, and of these only 450 (48.9 per cent) came from villages, (see *Map 8*). Among these last, however, the majority reached only the lowest level of promotion, not exceeding the level of school for skilled workers.

To close this summarized report of our research into the impact of industrialization on educational inequalities, it may be useful to recall the three levels of analysis employed:

(a) Microscale—of the village or commune (examples of the qualitative research by Winclawski, Kwiecinski and others presented above);

(b) Mezoscale—of the region under industrialization (as described in the research by M. Kozakiewicz and others in this chapter);

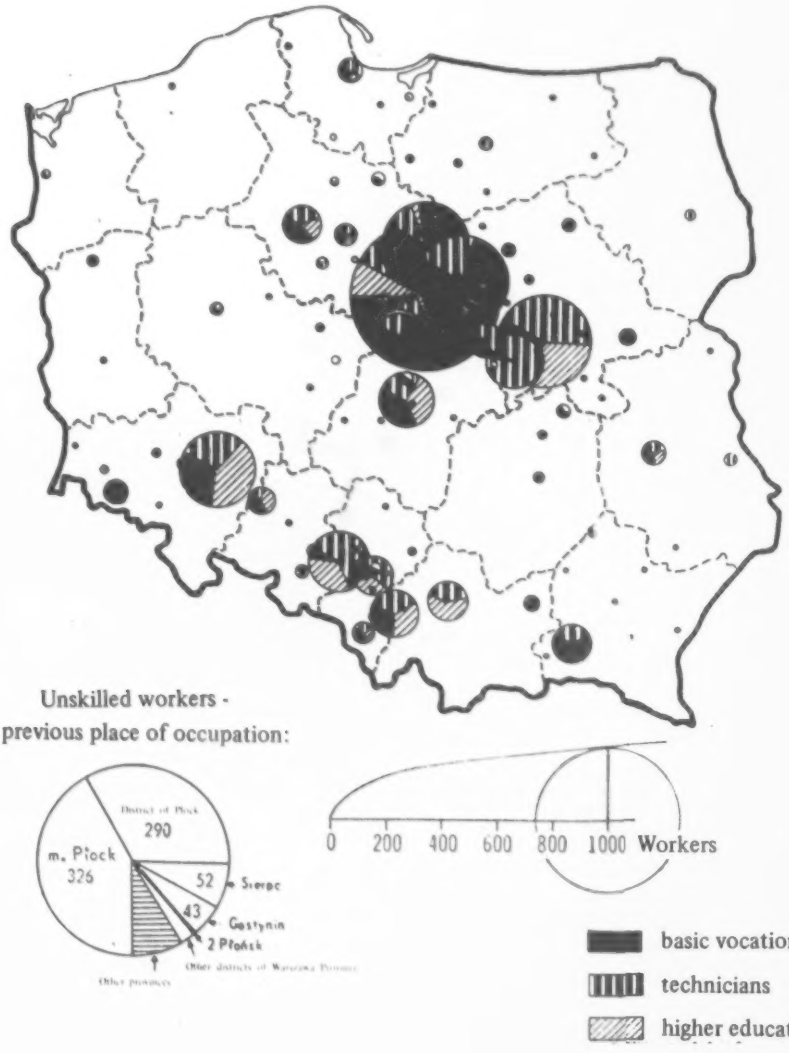
(c) Macroscale—of the whole country (examples of research by Anna Pawelczynska and Mikolaj Kozakiewicz presented above).

It is our firm conviction that it is only by investigating the influence of industrialization (urbanization) at *all* of these three levels that a real and exact picture can be obtained.

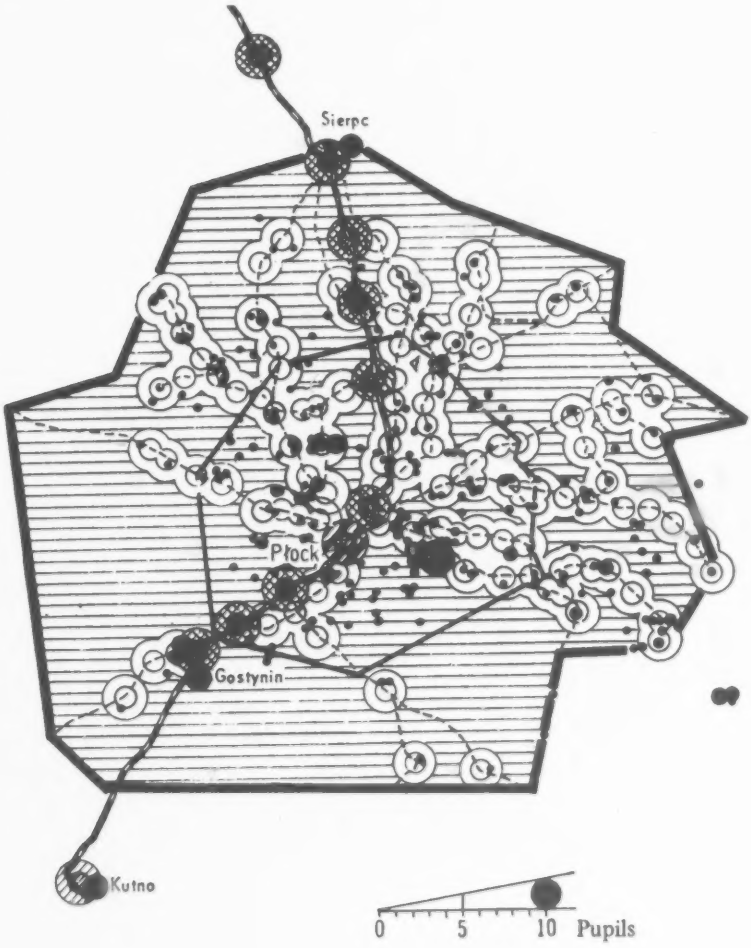
C. The effectiveness of purely educational innovations aimed at reducing inequalities

As a result of numerous investigations the school authorities—and the Government—were aware of the extent of the educational inequalities between urban and rural areas. For this reason, over the past 35 years, a number of reforms and innovations were introduced, aiming at the gradual elimination, or at least reduction, of these inequalities. Our team considered that the analysis and evaluation of the results of such innovations was a natural obligation for researchers, even though the Ministry of Education did not always share this opinion.

Map 7. Newly employed workers according previous place of occupation and level of skills



Map 8. Industrialised region of Plock - Students commuting daily to seven petrochemical schools from suburban and rural areas



The historical background in 1919 the Teachers' *Seym* (Parliament), as it was called, adopted a Programme which was really Utopian at the time:

- a uniform compulsory 7-year school for every child, whether in town or countryside;
- a 5-year general-education secondary school based on the 7-year primary school;
- vocational schools, a proportion of which should lead on to higher education;
- general higher education for all teachers.

It must be admitted at the outset that until the 1960s education was carried out mainly on the basis of the theories and wishes of pedagogues and progressive social reformers, formulated as a result of the experiences of the 19th century, as early as the first years of Poland's independence. It was not until the 1960s, in the People's Republic, that a new approach emerged, based on the analysis of needs and possibilities.[23]

Thus, in describing the evolution of the educational system for rural youth during the 35 years of the People's Republic, it must be understood that during the first ten years of that period, while the content of teaching was substantially changed, the organizational model of the school as elaborated before the Second World War remained in principle unchanged. But the universal extension of this traditional school system to all rural and urban areas was a problem. The aim was the admission of all rural children to the same type of schools as were available in the towns, and with the exception of a few theoreticians, nobody at that time considered the existing urban school model unsuitable, obsolete or inefficient.[24] It was felt that as soon as every pupil in the countryside attended the same primary school (from the point of view of staffing and material equipment) as in urban areas, the problem of the proper education of all citizens would be solved. For this reason, for many years (at least until 1957), only the following problems were taken into consideration as far as rural schools were concerned:

[23] In 1972 a new and far-reaching reform was approved (a ten-year universal school), but owing to the economic crisis of 1980 the programme was abandoned or at least postponed.

[24] We leave out of account here the proposal, purely formal and without results, to introduce 11-grade schools (i.e., 7-grade and secondary schools in the same building and under the same direction), since it was not in itself a reform, and the idea was soon abandoned.

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(a) How to organize the 7-grade schools so that fewer children would have to attend schools with only 1 to 4 teachers.

(b) How to restructure the school network so as to reduce the distance children had to travel to their primary school.

(c) How to ensure that all rural children completed the compulsory seven grades of primary school.

(d) How to equalize the level of staff, the quality of the buildings and the supply of educational equipment, in order to equalize the level of knowledge acquired in rural and urban schools.

(e) How to equalize the opportunities for post-primary education in towns and villages.

This last point was variously interpreted at various periods. During the first ten years the principle was mainly used to secure the further education of rural youth, as a result of which it was hoped that they would remain in the countryside (anti-migratory tendency of educational policy).

This anti-migratory educational policy and its specific interpretation—equal opportunities of further education—resulted from the economic difficulties experienced by Polish agriculture in the 1950s. It resulted also from the fact that at that time only half those completing Grade 7 could count upon finding a free place in post-primary education. And finally, it resulted from the extremely difficult situation as regards accommodation in the towns, which was aggravated by the influx of migrants from the countryside.

This policy, however, was based on an obsolete thesis (which was discarded only much later), namely, that the drain of youth from the countryside was in general an abnormal phenomenon and dangerous for agriculture, since it was believed that the strength and productivity of agriculture depended on the number of people employed in it. In fact, on the contrary, the outflow of surplus manpower from the countryside is the main factor in the development of industry in the towns and of the increase in the productivity of labour in agriculture.

It was not until the 1960s that the idea of equality of educational opportunity acquired another meaning. Post-primary schools ceased to be regarded as a means of preventing migration: they now became the means of controlling migration in the interests of the national economy as a whole. A proportion of rural youth would return to the village, having acquired not only agricultural skills but also skills of a general nature, to be used in the countryside for its further economic and cultural development.

These promises with regard to rural education encountered tremendous difficulties in their realization. Only some of the difficulties were due

to the weakness of planning mechanisms or material deficiencies; a greater number were of an objective nature and were due to the dispersed-settlement system of the Polish villages. But the difficulties increased immeasurably in 1960, with the introduction of the eight-grade school.

This lengthening of the period of compulsory schooling to 8 years was equivalent to giving the schools more than 1,000 additional hours of teaching, offering an opportunity for the enrichment and more rational organization of the curriculum. It was further decided that every effort would be made in the decade 1960-70 to ensure that at last both rural and urban schools would become of equal value.

However, the traditional method—'making the full-value primary school get closer to the child'—was chosen, involving in practice a further decentralization of the school network with the aim of building 'a good school' in every village. Despite very considerable efforts (1,200 new school buildings were provided by voluntary collective action), the plan was not fulfilled, and in 1970 about a third of rural pupils were still in schools with less than 'full value' (fewer teachers than grades).

From this point of view it must be admitted that the implementation of the plan for improving the level and quality of rural schools (drawn up in 1960) was not a success. But it must also be emphasized that its failure was caused, in the main, by the out-of-date concepts of the 'good school' and the 'good school district' on which it was based, and not by errors or shortcomings on the part of the school administration. In fact, everything that could be obtained within the framework of the old idea, dating from the beginning of the century, to extend the school network in the remote rural areas and provide education for every citizen in this own immediate region, *was* obtained. Further progress would have demanded the fulfillment of the modern antithetical concept of facilitating access to schools outside the home area, of carrying the citizen to the place of learning—a much more progressive solution, the implementation of which did not begin until after 1970.

One positive and lasting achievement of the 1960-65 reform was the introduction of grade 8 in primary schools. But without any change in the strategy and concept of the school system this introduction proved disadvantageous, as the rural schools inevitably broke down under the burden of a much more difficult curriculum—particularly in the new grade 8, which contained much that had previously been taught only in secondary schools.

For this reason it should be recognized that the real breakthrough, with all its consequences, came in 1971, when the concept of the Communal Central School for pupils aged 12 and over, with the provision of school transport, began to be implemented. As a result of the centralization of the school network, the number of rural schools fell from 26,126 in 1970/71 to 8,753 in 1978/79—a decrease of 66 per cent. (This task was facilitated by the demographic depression in the years concerned).

The change carried out was in conformity with the theories developed by educational researchers over a dozen years. However, it did not consist solely of the centralization of the school network itself; a number of changes, also based on expert opinions, were introduced in the organization and curriculum of the Communal Central School. Its programme provides for:

(a) forming special classes for children with slight mental defects or retarded mental development;

(b) constituting vocation-directed classes for less gifted pupils (for whom the curriculum of the 8-grade school causes problems) providing vocational training in their last two years;

(c) constituting equalizing groups for children entering Grade 1 with retarded school maturity, and also organizing a 'zero year' for six-year-olds for the same purpose;

(d) introducing the principle of making pupils do all their lessons on school premises under the supervision of a teacher instead of giving homework;

(e) organizing circles of interest and other occupations after lessons, in order to develop the pupils' interests and aptitudes;

(f) appointing specialist teachers in all subjects, with a considerable increase in the percentage of teachers with higher education;

(g) developing every school as a centre of cultural influence in the village, and in particular spreading pedagogical knowledge among parents;

(h) equipping better-equipped laboratories and science rooms;

(i) ensuring medical and dietetic care in every school;

(j) etc., etc.

It must be admitted that these proposed innovations could have exerted a significant effect in the reduction of urban/rural inequalities, if they had been fully implemented.

Since 1971 our team has been investigating the efficiency and functioning of the educational innovations in rural schools, and has supplied the results to school authorities in the form of experts' reports and publications, but only occasionally have these efforts been received with either gratitude or approval.

1. Investigation of conflicts accompanying the founding of Communal Central Schools

The investigation described below is a typical example of an expert report made by our team in response to a definite order from the highest State authorities. In 1973 these authorities began to receive reports that in a number of rural areas social conflicts were developing between the population and the local school authorities, arising from the centralization of the school network and the institution of the Communal Central School. At first, about a dozen communes were involved; then 54; finally, our investigation covered 102 schools, of which 76 were 'conflicting' schools and 26, for the sake of comparison, schools in which the reform was carried out without conflict. The investigation was carried out in 8 of the 17 voivods then existing, and thus was only a sample of all the areas in which conflicts had arisen (see *Map 9)*.

The conflict usually took the form of the refusal, by parents of pupils of schools closed down by the reform, to send their children to the central schools, for periods lasting from several days to many weeks; in effect, a sort of boycott of the new schools. A group of 14 persons organized by our Team and divided into three sub-groups (northern, southern and eastern) carried out investigations in the areas involved in the conflicts, by means of a questionnaire addressed to the authorities, parents, teachers and pupils. They collected reports and agendas of various meetings, and documentation on the school buildings, conditions of commuting, and the quality of the roads. The complete documentation amounted to 533 pages of reports of interviews and conversations, seven regional reports amounting to 198 pages, and numerous maps, plans and other documents. On this basis the group drew up a diagnostic report of 39 pages, with 73 pages of appendixes containing maps, diagrams, etc.

Only three months after the order had been placed, this very concise report was handed over to the highest State authorities.

The reform, as described in the previous section, was entirely aimed at the improvement of rural schools and the reduction of the educational inequalities between urban and rural areas; the degree of dissatisfaction and resistance on the part of the rural inhabitants was a complete mystery. The official hypothesis, as transmitted to our Team by the authorities who ordered the research was that 'the boycotting of the schools is a symptom of the manipulation and investigation by factors politically inimical to the State in general'. Our investigation did not support this hypothesis. Manipulation of feelings did occur, of course, but it was not the main cause, nor was it mainly the work of the clergy or of other circles inimical to the State. Equally often the 'instigators' proved to be the teachers and heads of the closed-down schools, but they too were not the main cause of the conflicts surrounding this correct reform. In the light of our investigations, the basic causes were the following:

Map 9. Regions under research 1973 conflict areas during school reform.

——— Districts where the "positive" schools were analysed.

═══ Districts where the "positive" and "negative" schools were analysed.

Research area of the North group.

Research area of the East group.

Research area of the South group.

(a) The absence of a satisfactory pre-reform action to explain to the inhabitants of the countryside the real meaning of the reform (i.e., the dictatorial and bureaucratic way of carrying out the reform).

(b) Refusal to consider the reservations of the population and their protests against the closing of their school (often newly built with funds provided by them) and, consequently, enforcement of the decision to change the school network, but without any action to improve the shortages and inadequacies in the network of roads and communications—to which the population justly drew attention.

(c) The improper reaction by the authorities to the energetic opposition of the rural population, especially to the boycotting of schools (fines, arrest for the disturbance of public order. etc.). In our report it was clearly demonstrated that among the 76 'conflict' schools there was not a single one in which the 'rebellion' was groundless and in which the responsibility could be imputed to the inhabitants of the village; in all cases they were objectively right. The investigation showed, in fact, that similar difficulties accompanied the opening of all the 106 newly founded schools, but only in some of them was there a sharp clash in the shape of a 'boycott of the school'. It was estimated that overall, in the eight voivods investigated, the percentage of newly founded schools which were subjected to boycotting was between 20 and 25.

In 1972, when the first communal schools were founded, there were no conflicts; as is usual in such affairs, the 'best' communes were chosen—those in which a suitable infrastructure for the reform already existed. In their race for statistical success in carrying out the reform, the school authorities began, next, to centralize the school network in areas where there were no proper promises for the central school, good roads were scarce, and means of transportation not available. This second instalment of the reform began in 1973; the result, in many cases, was that the situation of the rural pupils was *worsened* instead of improved. They were faced with having to commute, by irregular methods of transport (tractors with trailers), on roads which in spring and autumn were impassable, to central schools which were overcrowded in inadequate premises.

Lack of space precludes further description of this interesting investigation. But mention should be made of the special 'Index of Minimum Conditions for the Introduction of the Central School'. This is a points system covering the various conditions of the roads, communications and premises which the investigations showed as the main causes of conflict with the local population in connection with the reform (these conflicts and their causes are depicted graphically in *Figure 7*). The Index was graduated by measuring the real situation in the 'quiet' and 'conflict-prone' villages, and allocating points for the various factors involved: *Table 37* gives the Index in full.

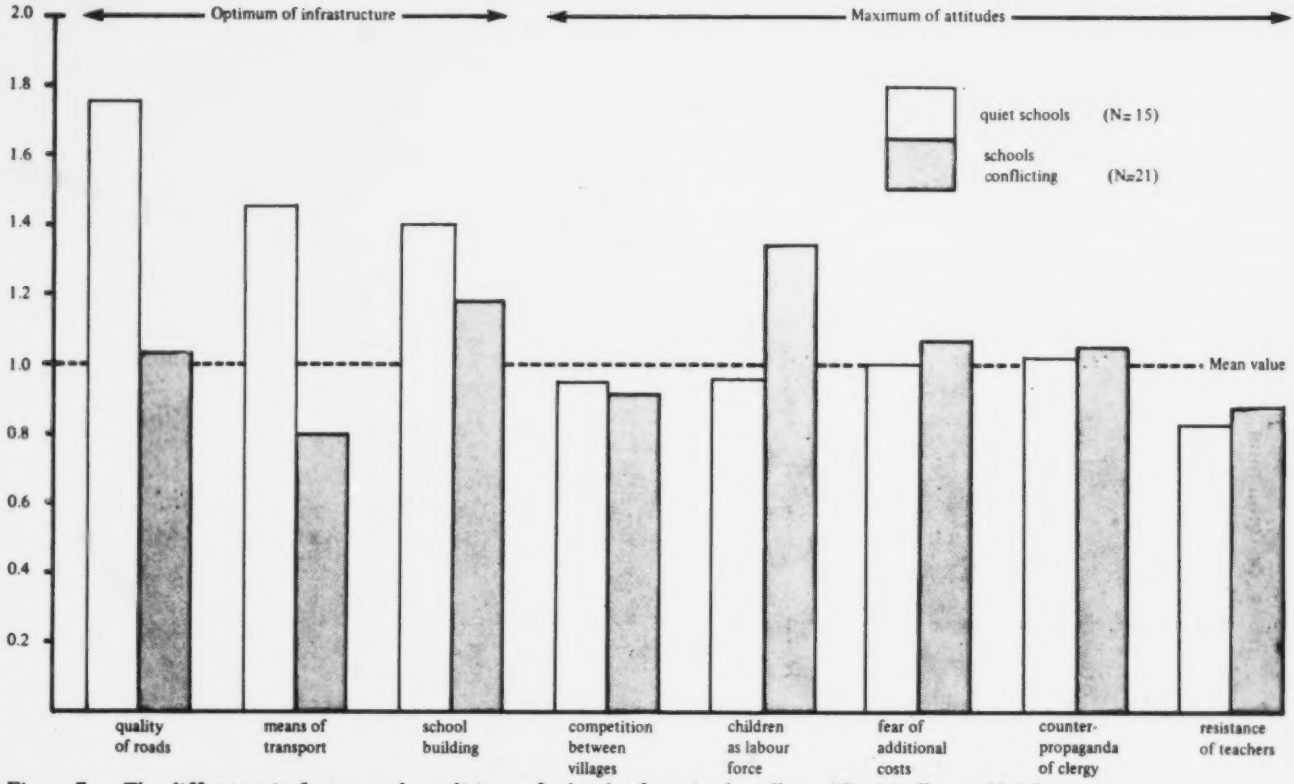

Figure 7. The difference in factors and conditions of school reform in the villages "Positive" ones N=15 and "Conflicting" ones N=21

Table 37: Index of minimum conditions for the reform of the central school

A. *Quality of the road linking the branch village with the village harbouring the central school:*

Road of the 1st State class	10 points
Road of the 2nd State class	8 points
Other metaled roads (tarred, asphalt, pavement)	6 points
Gravel-hardened road, practicable all the year round	4 points
Gravel-hardened road, but impracticable during some seasons of the year	2 points
Non-metaled (field or forest road etc.)	0 points

B. *Means of transportation for the pupils:*

school bus (minibus), the bus of an institution put at the disposal of the school, special school lines of the State Road Transport	10 points
Public railway and bus lines, if the greatest walking distance to the stop does not exceed 1 km. and at the stop there is a shelter or waiting-room	8 points
Public railway and bus lines, if the greatest walking distance to the stop does not exceed 1 km.. but there is neither a shelter nor a waiting-room	6 points
Public railway and bus lines, if the walking distance to the stop exceeds 1 km., and there is a shelter at the stop	4 points
Tractor with trailer, if there is a waiting-room for the children and a club-room at the school	3 points
There is a public bus line, but the children are mainly transported by a tractor with trailer, there is no club-room and no waiting-room.	2 points
There is no public bus line (or there is only a seasonal line) and the children are transported by a tractor with trailer	0 points

(Continued on opposite page)

C. *The building and equipment of a central school as compared with the building of a school whose organizational rank decreases to a branch school:*

(i) The building of the Communal Central School (CCS) is much larger (over 50 per cent more cubic capacity), equipped with central heating (1 point), sewers (1 point), gymnasium (1 point), 3 rooms for special teaching subjects (each room 0.5 points) club-room (1 point), supplementary feeding (1 point) — 10 points

(ii) The CCS building is a little greater (11-50 per cent more cubic capacity), equipped with central heating, sewers, gymnasiums, three special subjects rooms, additional feeding, club-room — 8 points

(iii) The CCS building is of the same size (up to a difference of 10 per cent). It has, however, central heating, sewers, a gymnasium, 3 special subject rooms, additional feeding, club-room — 6 points

(iv) The CCS building is in fact, from the point of view of cubic capacity and equipment and the functions performed, in no way superior to the building of the closed school, but is as good. — 2 points

(v) The CCS building is older or less good, from the point of view of cubic capacity and equipment; it does not offer better conditions of learning to the children, in fact it worsens them. — 0 points

Note: For every missing item the points in brackets are deducted.

On the basis of this Index a scale of conditions for organizing a central school was drawn up, showing the number of points necessary: the maximum number of points is 30 (10 for each component of the school infrastructure: buildings, roads, transportation). This scale was as follows:

I	good conditions for the reform and the possibility of easy transition to the new system	20-30 points
II	adequate conditions for the reform and small probability of conflicts	18-23 points
III	inadequate conditions for the reform and great probability of conflicts	12-18 points
IV	conditions for the reform non-existent, nearly certain conflicts, below	12 points

The Index and the scale derived from it were suggested to the school authorities as a useful tool for forecasting the local response to changes in the school network, the closing of the village school, and the transporting of children to the central school. It is not known whether this index was in fact used by the authorities for the continuation of the reform: but we do know that as a result of our report there was a slowing-down of the pace of the reform, and also an intensified activity of explaining to the local population the essence of the changes proposed. From then on there was no further boycotting of schools.[25]

2. Investigation of the efficiency of various innovations associated with the Communal Central School

The longitudinal study carried out by our team, covering a total of 7,000 pupils over a period of 12 years, also permitted us to investigate the degree to which the various components of the programme to improve the 8-grade school in rural areas were implemented, and to what extent they were successful in equalizing the quality of urban and rural schools.

(a) Abolition of selective examination for entry into secondary school

On the basis of research which had shown that the vocabulary of pupils, and the verbal ability of school-leavers, were lower for rural than for urban schools, the educational authorities changed the system of selection of entrants to secondary level. They abolished the system of selection by examination, replacing it by the system of the 'delegation' of a pupil to secondary school by the Pedagogical Council of his primary school. This system appeared to be reasonable: an examination is always a matter of

[25] In 1981, among the many political revendications made, in a number of villages decentralization was demanded—but this time without boycotting.

chance, and its outcome is frequently decided more by verbal ability than by knowledge and capabilities. Moreover, the Pedagogical Committee, which has known the pupil for eight years, has better judgement of his capabilities than the examining committee, which has only a 15-minute oral examination on which to decide. In the view of the authorities, this would be a powerful tool for equalizing the opportunities of rural pupils for entering secondary school—and, consequently, higher levels of education. But the investigations carried out by our team immediately after the introduction of the new conditions of admission were surprising. The social composition of the pupils newly admitted to secondary school by the delegation method was practically identical with that resulting from selective examinations: over-representation of girls and of the children of white-collar intelligentsia, and a noticeable under-representation of rural inhabitants, boys, and agricultural children. The innovation was obviously having no real influence on equalizing educational opportunities as between urban and rural areas. There were two reasons for this:

(a) in allotting places in the secondary schools of various types, in the form of cards of delegation to the schools, the educational authorities decided beforehand the number of places to be allocated; cards for basic vocational schools were more numerous than those for general education secondary schools;

(b) within these limits, the primary-school teachers made their own selection, giving the best cards (those for general education secondary schools) to the 'best' pupils.

The place and method of selection changed, but not the criteria. Further influence on the distribution of cards came from the pressure exerted on the teachers, and the support of local dignitaries and influential people. In short, the innovation was a failure.

(b) Creation of vocation-directed classes

These grades were intended to embrace some 5-10 per cent of the less gifted pupils, who were not interested in the subjects of general education and who in their two final years would follow a simplified version of the 8-grade school programme and at the same time receive training in various technical, construction, and agricultural/stockbreeding professions. This was a justifiable breach of the principle of 'uniformity of the school system', intended to overcome the situation in which about 10 per cent of the relevant rural age-group became discouraged by the difficulties of the 8-grade school programme and dropped out before concluding it.

In 1977 the former Minister of Education, Jerzy Kuberski, wrote: "In

1976 there were already 1,816 such classes, attended by 35,000 pupils."[26] But a closer investigation into the implementation of this innovation revealed a number of unplanned side-effects. As we showed in a special study of the question, in many schools these classes became merely an additional instrument of social selection. In other words, the teachers availed themselves of these newly created classes by transferring to them *all* pupils 'giving trouble', so that sometimes as many as 35 per cent of pupils were transferred instead of the maximum of 10 per cent laid down. These were, as a rule, the children of farmers, and the vocation-directed classes, almost exclusively, provided training in ... agriculture. As a result this innovation, perfectly justified in its assumptions, through being badly carried out, increased rather than decreased the inequality of educational opportunities and in some places seriously impaired the chance of success of agricultural youth. It amounted, in practice, to the principle of *glebae adscriptio* (binding to the soil), which is contrary both to the principles of educational policy and to educational philosophy in Poland.

(c) The true consequences of the struggle against repeating

Repeating is in itself an instrument of social selection, and as we saw earlier the opportunities of repeaters for making further progress in school are much poorer than those of pupils who do not repeat. The educational authorities declared war on repeating; they abolished it in grades 1 to 3, considering these to be the years for equalizing children's developmental delays, when it is senseless to let them repeat a year. In the subsequent grades repeating is still permitted, but it is constantly monitored by the educational authorities, who regard it as an indication of poor performance by the school rather than by the pupil. Since the implementation of the reform of the 8-grade school, repeating in rural areas has continually decreased, and in the words of the former Minister of Education quoted earlier, "whereas in 1972 repeating in rural areas involved 6 per cent of pupils (as compared with 4.7 per cent in urban areas), in 1975 there were only 2.7 per cent". Is the drop in repeaters a result of improvement of the level of the pupils' knowledge brought about by the reform? Is it part of the process of reduction of inequalities? Drawing once again on our 12-year longitudinal study, we found that comparison of the marks given by teachers, the objective results of the tests of pupils made by our researchers, and the co-efficients of repetition in the schools did not give us any really firm answers. Our basic conclusions were:

(a) Pupils with identical school marks represent very diverse levels of knowledge: there can be a span of 1:2 between urban and rural schools in the percentage of correctly solved test tasks.

[26] J. Kuberski, 'Szkola i spoleczenstwo' (School and society), Warsaw, 1977.

(b) There is no significant correlation between the results of the objective measurement of the pupils' knowledge in a given school and the coefficient of pupils promoted at that school.

(c) There are therefore no bases for assuming that the equalization as compared with the town, and the continual decrease in repeating in rural schools, represent a process of equalization of *the quality of the work* in urban and rural schools, and therefore of equalization of their educational opportunities after primary school. What is more, the statistical improvement in the field of repetition may hide the increasing inequality in the quality of the work in the rural schools, and thus prevent any real improvement of the situation.

Once again, lack of space prevents further details of the many investigations we made into the efficiency of the innovations in rural schools aimed at equalizing the urban/rural educational disproportions. In brief, we investigated in the same way other innovations, such as school transport, mass further training of teachers on a higher level, supplying the reformed schools with educational equipment and laboratories, gymnasiums, etc., and whether the introduction of competitions and school olympics (in Polish language and mathematics) was having any effect in 'catching' talents from the countryside. In all these areas the main research approach was the same: whether and to what extent the innovations are meeting expectations, and if not, what is the cause of their partial failure. We are convinced that research of this nature, serving as a current check on the correctness and appropriateness of educational policy, is very important. But it may sometimes prove a source of troubles and difficulties for the researchers, who may be accused of opposition and 'viciousness' towards the authors of the reform. Any researcher who decides to carry out such diagnostic investigations during a process of reform must be prepared for this. His reward lies in the fact that expert reports of this nature often result in the correction, before it is too late, of erroneous ideas or (more frequently) of the faulty implementation of good ideas. At times, however, correction is delayed for several years, until the defects reported by the researcher become obvious to everybody.

7. Investigation into after-school careers of emigrants from rural areas

All the investigations carried out by our team that have been described in this study were concerned with the inequalities that occur in and between schools. However, education is something that people value not only for itself, but as a key to success in life. For this reason the concluding section of this study deals with Wl. Winclawski's investigation into after-school careers of people who completed primary school in a village and then moved to a town.[27]

The investigation was started in 1977, in the highly industrialized city of Torun, with a population of 165,000. Winclawski examined *all* inhabitants born in 1945—i.e., 32 years old at the time of investigation—a total of 1,350 persons (85 per cent of the possible number). This population was made up of 51 per cent women and 49 per cent men. One-third were born in Torun, two-thirds were immigrants. 24.3 per cent of the sample came from peasant families.

The aim of the research was simple: to determine the *starting level* and the *level of achievement* of the same group at the age of 32 years; (what were the causes of the differences, including the rôle of education).

The *index of the starting level* was constructed from the following indicators: territorial (environmental) origin, character of the family, educational level of parents, social background of grandparents, socio-professional status of parents, housing conditions of parents' homes (measured by number of persons per room), standard of household amenities (electricity, drainage, running water, hot water, bath-room, lavatory, central heating, gas, radio). A detailed list of the indicators and of the points assigned to them is contained in the Appendix; the theoretical range of the index of the starting level was from 2 to 58 points.

The *index of the level of achievement* was constructed from such indicators as: level of education completed, additional courses completed, socio-professional category, position in job (leading or executive), monthly income, quality and nature of home, (square metres per person, technical

[27] This description is based on a special report made by Wl. Winclawski for this study, as at the moment of writing his research has not yet been published.

equipment), possession of durable consumer goods (motor-car or motor-cycle, TV, radio, washing machine, cultural goods). The detailed list of indicators and points is in the Appendix; the theoretical range of this index was from 0 to 65 points.

In his analysis of the *starting level* the author made eight categories: poor conditions (up to 16.5 out of 58 possible points), difficult, medium-minus, medium-plus, good, very good, outstanding. For example, the lowest group (poor conditions) contained 5.1 per cent of the sample population: it was almost without exception a rural peasant group (often farm-hands), and contained more men than women. The highest group (outstanding conditions) contained 7.1 per cent of the population investigated: in this case, again almost without exception, they were city-dwellers and children of intellectuals with higher education. In the intervening groups it was noticeable that as the category of starting level rose the proportion of rural and peasant population decreased and the proportion of urban population, white-collar workers, and intellectuals with higher education decreased—in both cases with striking regularity.

Turning now to the *level of achievement* of the population investigated, we find that it was no less differentiated than the starting level, but differed from it. Thus 17.8 per cent of the population still had only primary education (complete or incomplete), and 12.5 per cent had higher education. White-collar workers accounted for 42.8 per cent of the persons investigated (16 per cent in intellectual professions, 16 per cent in technical professions, and 10 per cent in office professions). 14.3 per cent were unskilled workers, 25 per cent were skilled workers, 12.5 per cent were white-collar/physical workers (e.g., storekeepers), and 5.4 per cent did not work (mainly women).

Of the 1,350 persons investigated, 14.8 per cent performed leading functions of local importance (e.g., the head of a factory section) and 3.1 per cent had leading functions above local level (e.g., the head of a voivod centre).

The various indices of the achieved level situation revealed similar differentiation. In the lowest group there were 6 per cent of the population, with an average of 13.4 points; they were mainly unskilled workers with incomplete primary education, and the majority were women. In the 'outstanding' group, which represented 7.7 per cent of the population, the average number of points was 54.4—four times as many as in the 'low' group. These had the most eminent achievements, and 90 per cent of them were white-collar workers, mainly men.

Comparison of a person's starting level with his level of achievement showed remarkable regularity. In fact, the correlation between the two levels was so high that it reached a level of significance of $r = 0.0005$.

In general, the two extreme groups ('poor/low' and 'outstandingly good') maintained these positions without change. In other words, those who started from the lowest level were usually in the lowest achievement

levels after 32 years, and those who started from very good and outstanding levels usually maintained these levels in their achievement. *Table 38* summarizes this.

Table 38: The starting level of children and their achieved level at the age of 32 (in percentages)

	Starting level	
Level of achievements	'Poor and very difficult'	'Outstanding'
Very low	2.9	0.0
Low	27.6	2.1
Medium-low	21.7	12.5
Middle-minus	14.5	9.4
Middle-plus	11.6	13.5
Medium-high	9.1	17.7
High	7.7	20.8
Very high	1.9	24.0

Two phenomena are illustrated by this table. First, the starting level continues to hamper or facilitate achievement throughout life. Second, as a result of the gradual elimination or equalization of urban/rural disproportions, it is losing this determining character: more than half of those starting from the lowest level did in fact improve their situation, reaching a medium or moderate level of achievement. Ten per cent of these starting from the lowest level attained considerable improvement. In the entire investigated population of 1,350 persons an 'astounding progress'—a jump of many rungs upwards—was recorded during 32 years for 32 persons—2.6 per cent.

Investigation of the inter-relations between the global index of the starting level and the various indices of the achievement level by means of Tchuprov's coefficient (T) showed very high correlations between:

(a) Starting level and socio-professional position (T = 0.18);

(b) Starting level and educational level (T = 0.16);

(c) Starting level and ownership of goods (T = 0.11);

(d) Starting level and nature of home (T = 0.10);

Other relations proved to be statistically insignificant: those between the starting level and:

(a) Position occupied in the job (managing or non-managing);

(b) Amount of monthly income;

(c) Amenities in the home (water, gas, bathroom, lavatory, etc.).

This apparently incomprehensible absence of correlations is explained by:

(a) The deliberate preference for persons of 'plebeian' origin in nominating for managing positions;

(b) Polish income policy, under which a man with higher education employed in a State office may earn less than a skilled worker in an approved enterprise;

(c) The standardized nature of State-built apartments (co-operatives).

Winclawski's study investigated not only the achieved education level, but also the way in which it was achieved. The cycle of education by which young persons pass successively from school to school, without interrupting learning by periods of work, he termed 'the simple educational path', while the interrupted cycle, as well as that which included adult education, were called 'the roundabout educational path'. It is an undoubted fact that the latter is more difficult, longer, more time-consuming and more expensive for the learner. But the surprising result of the investigation is that 47 per cent of the population examined achieved their educational level by the roundabout path, irrespective of whether their background was rural or urban: the situation for people from both areas was practically identical. The fact that some of them had acquired their education by the direct path, and others by the roundabout path, had no differentiating effect on the level of their achievements. In other words, although the adult education system in Poland is more arduous for the student and does not always offer the same knowledge, it plays an important rôle in equalizing the life opportunities of people—opportunities which are, as we have seen, dependent on education. The *duration* of the educational path followed was the really differentiating factor in the achievement level. The correlation was evident and strong: the longer the educational path, the higher the index of the level of achievement.

8. Conclusion

The aim of this study has been to describe the factors responsible for rural/urban educational inequalities, the attempts being made to reduce them, and, in some detail, the research methods employed by our team to investigate these two aspects. The causes of inequalities are multiple and diverse: demographic, economic, psychological, cultural, and related to the school system and its functioning. The methods of research must be correspondingly multidisciplinary if the findings are to be a full reflection of the complex reality. Educational methods alone, or sociological methods alone are insufficient; the use of psychological and socio-psychological research is as essential as economic, historical or ethnographical research. The examples of our teams researches presented in this study show the variety of approaches, and the continual effort to study the problems from the angle of various sciences: not only sociology, but some aspects of medicine (physical and sexual development), psychology (intelligence testing), economics (family income *per capita*, quality of housing, etc.).

Similarly, an in-depth understanding of inequalities cannot be achieved by a one-time research carried out by simple sample survey. For this reason we created two field-research stations, at Plock and Torun, and three times appointed researchers to live and work for two to three years in the commune and village being investigated. With the same aim we set up a network of 49 teachers/correspondents in the region of Plock, who led directed participatory observations, and administered auxiliary questionnaires in the village schools in which they worked. The huge 12-year investigation of a sample of 7,000 pupils in Torun served the same goal to secure continuity of the research and the resulting deeper insight into the causes and effects of existing inequalities. While it may not be possible, for financial reasons, for researchers working in other countries and under other conditions to copy all our methods, a maximum effort should always be made to ensure the continuous, in-depth and multi-disciplinary character of any serious research.

Another outcome of our experience is that it appears very important always to analyse inequalities, and the process of their reduction, on three levels:

(a) macrostatistically, on the scale of the whole country but with regional break-down;

(b) mezoscale of a particular region, applying both macrostatistical and empirical approaches;

(c) microscale of a commune or village empirically examined.

As one proceeds from 'top' to 'bottom', not only does the complexity of the causes of inequalities become clearer and more obvious, but the dimensions of existing disproportions increase significantly.

We have also attempted in this study to demonstrate the extreme importance of choosing an appropriate continuum on which to analyse urban/rural inequalities, so as to obtain the closest possible image of the reality, and to be able to formulate a realistic and effective programme for reforms and innovations. It is doubtful whether the continuums used in our Polish research, as described in the study, can be automatically applied for analysis in any other European country, let alone in other regions of the world. But the method of construction of the continuums and the essential typological approach are advisable whatever the conditions.

All good multi-disciplinary research into educational inequalities gives deeper insight into the social inequalities of all kinds in a given country, and at the same time aids the reduction of educational disproportion between urban and rural areas. But at the same time care must be taken to foster the abolition of all other kinds of inequality, by improving the economic, social and cultural situation of the rural population; without equalization in all these domains the real abolition of educational inequality will remain impossible, not to say utopian. This is yet another reason for a broad approach to rural reality when programming a new research project and choosing the most appropriate methodology.

Appendix

Principles of point-setting as applied at the formulation of indices of the 'starting level' and of the 'achieved level'

I. Indices of the 'starting level':

1. *Territorial (environmental) origin*

10 points	large city (100,000 inhabitants and more)
9 points	medium city (30,000-99,000 inhabitants)
8 points	satellite city
7 points	small town
6 points	agricultural town
6 points	village in the metropolitan zone
5 points	village in a region under industrialization
4 points	village in an agricultural region of high agricultural culture, central in the region
3 points	village in an agricultural region of medium and lower agricultural culture, central in the region
1 point	village in an agricultural region, peripheral in the region
0 points	village in an agricultural region of medium and low agricultural culture, peripheral in the region

2. *Character of the family*

10 points	natural, complete family
7 points	complete, reconstructed family (step-father, step-mother)
6 points	substsitute family
4 points	incomplete family (half-orphaned)
2 points	fluctuating family situation
1 point	educated outside the family

1 point	incomplete family (split up)

3. *Education of the parents*

10 points	higher
8 points	higher, non-graduated, half-higher
6 points	final secondary school examination
4 points	incomplete secondary, basic vocational
3 points	basic vocational, incomplete
2 points	primary
1 point	incomplete primary, self-taught
0 points	illiterate

The number of points for the 'education of the parents' was calculated as a mean of the points achieved by the father and mother.

4. *Social origin of the grandparents*

6 points	intellectual (white-collar)
4 points	middle class
3 points	craftsman
2 points	worker
1 point	peasant
0 points	other (unstable professional situations, etc.)

5. *Socio-professional status of the parents*

10 points	intellectuals
9 points	white-collar
7 points	employee in services or handicraft industries
6 points	skilled worker
4 points	peasant (15 hectares)
2 points	peasant (7-15 hectares)
2 points	worker-peasant
2 points	unskilled worker
1 point	peasant (6 hectares and less)
1 point	hired farm-hand
1 point	other sources

The number of points for the socio-professional status of the parents was calculated as the mean for both parents. If the mother did not work, she was granted the husband's status less 2 points (highest: -1)

6. *Housing conditions of the family home*

4 points:	2 or less persons per room
3 points:	3 persons per room
2 points:	4 persons per room
1 point:	5 persons per room
0 points:	more than 5 persons per room.

7. *Technical standard of the family home*

One point was awarded for each of the following amenities: electricity, main drainage, running water, warm water, bathroom, central heating, gas, radio set, water closet. The theoretical span of the starting level was between 2 and 58 points.

II. Index of the 'level of achievement':

1. *Education*

12 points	-doctorate degree
11 points	-attended more than one university faculty
10 points	- higher education degree
8 points	- higher education, incomplete
7 points	- post-secondary education
5 points	- final secondary school examination
3 points	- incomplete secondary and basic vocational education
2 points	- incomplete basic vocational education and factory school
1 point	- primary education
0 points	- primary education, incomplete

2. *Completed additional short-term courses*

For each course - 1 point

3. *Profession of investigated persons*

10 points	- intellectual
7 points	- technician
6 points	- office worker
6 points	- foreman and overseer
6 points	- craftsman
4 points	- white-collar-worker
4 points	- skilled worker
2 points	- half-skilled worker

1 point	- unskilled worker
0 points	- non working

4. *Position*

10 points	- top managerial
5 points	- medium managerial
2 points	- other
0 points	- none

5. *Monthly income*

10 points	- 10,000 zlotys and more
9 points	- 9,900-7,000
7 points	- 6,900-5,000
5 points	- 4,900-2,000
3 points	- 3,900-3,000
1 point	- 2,900-2,000
0 points	- below 2,000

6. *Kind of dwelling*

1 point	- with the parents, temporarily
1 point	- rented to foreign people temporarily
0 points	- workers hostel
5 points	- own apartment, but he plans to exchange it
5 points	- own apartment in old building
7 points	- own apartment in new building
10 points	- own house

7. *Square metres per person*

6 points	- over 20 square metres/person
4 points	- 16-19 sq. metres/person
2 points	- 12-15 sq. metres/person
1 point	- 10-11 sq. metres/person
0 points	- 9.9 sq. metres/person and less

8. *Technical facilities of the house possesed*

One point was awarded for each of the following amenities: electricity, main drainage, running water, warm water, bathroom, central heating, gas, ratio set, water closet.

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9. *'What does he posses?' (durable goods such as cars, motor-cycles, TV, radio, refrigerator, washing-machines etc.)*

One point for every possession. The theoretical span of the index of the level of achievements is 0-65 points.

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The full bibliography of research reported in the present study contains more than 50 books and 500 articles. Almost all of them are published in Polish and therefore are hardly accessible to foreign readers. For this practical reason we are only giving a selected sample of published books; a more complete list of publications in foreign languages is given in Part II of this Bibliography.

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